MEDICAL CASES

AND

SPECULATIONS;

INCLUDING

PARTS IV. and V.

OF

CONSIDERATIONS

ON THE

MEDICINAL POWERS,

AND THE

PRODUCTION OF

FACTITIOUS AIRS.

BY

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AND

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1796.

TO THE

SUBSCRIBERS

TO HIS PLAN FOR INVESTIGATING THE

VIRTUES OF

ELASTIC FLUIDS,

THESE SHEETS ARE INSCRIBED BY

THE EDITOR;

IN THE HOPE THAT THEIR LIBERALITY

WILL BE THE MEANS OF SECURING AND ENHANCING TO

MANKIND

THOSE BENEFITS,

OF WHICH THE PROSPECT IS HERE HELD OUT.

Clifton, Oct. 26, 1796.

PREFACE.

MEDICINE is an art to which ſome look for health; others for a livelihood. Unleſs the public be ſufficiently enlightened to controul thoſe who exerciſe this art, the latter principle will encroach ſo as to obtain too large a ſhare in determining its condition; and there will always be ſome danger, leſt the advantage of the patient ſhould be ſacrificed to the intereſt, eaſe, or pride of the practitioner.

From the days of Paracelſus, to the full eſtabliſhment of the reputation of the Peruvian bark, there ſubſiſted a conſtant ſtruggle between perſons deſirous of introducing new ſubſtances into medical uſe, and their opponents. Potentates and national councils are well known to have taken an eager part in the diſpute. Phyſicians in poſſeſſion of the public confidence, were almoſt invariably on the ſide of oppoſition; but very ſeldom from certain knowledge or rational belief of the unworthineſs of this or that article to be admitted into the *Materia Medica*.

Controverſies

Controverſies of ſuch a nature appear to be for ever laid aſleep. When a new ſubſtance comes from the Antipodes, if it bring with it a paſſable character, there is now ſcarce a phyſician who will heſitate to receive it into his preſcription, or an apothecary into his ſhop. Had the Editor of theſe communications been content with adviſing the trial of *sal sodae* pills in the caſes of paupers afflicted with calculus; of wood ſorrel for ſcrophulous ſores; and of bodies containing looſely combined oxygene for ſea-ſcurvy, the moſt ſqueamiſh ſon of Hippocrates would never have felt himſelf ſcandalized at his proceedings.

To what is this advance in liberality to be aſcribed? Doubtleſs, in part, to the increaſe of knowledge, and to that habitual reference of opinion to experiment, by which the moſt knowing are kept in modeſt remembrance of their ignorance. But I have ſometimes ſuſpected the agency of an auxiliary cauſe; and the pride of birth having yielded to the ſpirit of commerce, why may not the ſame ſpirit of commerce have contributed to tame the no leſs ſtubborn pride of uſeleſs erudition?

That this ſort of facility extends as far as the LOVE OF GAIN will allow, and very little further, I had ſufficient reaſon to be convinced, long before I found myſelf in a ſituation to meaſure arguments with the enemies to inveſtigation in medicine. If a profit can be got by furniſhing or directing an article, what, among a generation, whoſe ſupreme good is gold---can be more in order, than that there ſhould be at once perſons ready to furniſh and direct? But there may be more trouble than profit in furniſhing the article, or in learning

ing how and when to direct it. In such case, what again can be more in order, than for those who are too busy or too idle to take an interest in improvements, to decry it; though they may not choose to assign precisely their reason for so doing?

A critical examination of our stores of health would furnish me with various instances for my opinion. I will adduce one. The living body is powerfully affected by heat and cold. But the means we have of applying them, either universally or partially, are disgracefully barbarous in a country, where mechanics and chemistry have been carried to such a pitch of perfection. Their clumsiness, where they are at hand, often deters from their use; and such as they are, they are often, in remote situations, not to be had. I could point out a variety of savage tribes, that have exerted their intelligence and fancy, with admirable effect, on utensils subservient to their most pressing necessities. In civilized communities, the accumulated stock of genius and dexterity is applied to no such vulgar purpose. It is well if it keep pace with the demands of fashion. How little the health or welfare of human beings is an object of the arts at large, seems sufficiently proved by observing, that the apparatus described in the different parts of this publication, is probably the first considerable piece of mechanism invented exclusively for the purposes of the physician. On this subject were I to propose a question to the most unexorable advocate for things as they are, I should not be afraid of a dissenting answer. *Would it be amiss, if, against the exigencies of disease, every parish or township were fur-*

nished with every such instrument and convenience as is at present known; and with such also as human ingenuity, exerted for this express purpose, shall be able, from time to time, to devise? But here is no obvious ſource of profit. The groans of the ſick form no part of the budget; and Miniſters cannot (or perceive not that they can) ſecure themſelves in office by efforts to eaſe the pangs by which thoſe groans are excited. In the mixed maſs, called the public, there are not a ſufficient number of leading individuals aware of the recompence which they might reap in ſelf-approbation, if they would make it a principal purſuit to inform themſelves how their fellow men may be beſt protected againſt perſonal ſuffering; and if they would unremittingly exert themſelves till ſuch protection becomes a ruling principle in ſocial inſtitutions.

I doubt whether the ſtricture was ſincere—but it has been objected to me, that I have written for the general reader, and not merely for the members of the profeſſion to which I belong. I might reply, that without influencing many minds, I could not hope, during the longeſt life, to ſee any ſatisfactory progreſs made in the enquiry which I wiſhed to have ſet on foot without delay. I might add, that although I am perfectly careleſs about the claſs of ſubſtances to which a remedy belongs, there were very ſufficient reaſons for writing more at large, and in a popular manner, when the ſubject was ſo entirely new. The principles on which the trial of gaſſes in medicine ought to proceed, were perhaps not very accurately known to the ſenior part of the faculty; they were nearly as well underſtood out of the profeſſion as in it: and the

the leſs analogy any method bears to thoſe commonly employed, the more pains will be requiſite to ſatisfy the ſcrupulous of its innocence. I have ſometimes met with invalids ready to ſwallow, upon truſt, in any quantity, medicines with which they were entirely unacquainted; but ſuſpiciouſly inquiſitive as ſoon as gaſſes were mentioned.

But theſe narrow reaſons were not thoſe which had moſt weight with me. I deſired to be inſtrumental in diffuſing a taſte for the moſt uſeful ſpecies of knowledge, and in converting nations into HUMANE SOCIETIES. There is an art, not ſuſpected by the multitude to lurk among poſſibilities, and never yet cultivated by any people, although its honorable title was uſurped by a ſyſtem of intercourſe, once eſtabliſhed among the French. This is the *art of living*; for whoſe reception men's minds can only be prepared, by being familiariſed with juſt ideas concerning animal nature; and whoſe precepts can iſſue only from the ſhrine of Hygeia.

THE DEGREE of credit due to the ſeveral reports in this ſeries and its precurſors every reader muſt determine by his own judgment. I have been anxious to procure unqueſtionable evidence of the groſs reſult. I have always requeſted that the patient might be ſolicited to allow his name and deſignation to appear. Theſe, in my opinion, however, add little to the credibility of a narrative, unleſs the method of treatment be at the ſame time ſpecified. I have omitted no endeavour to procure from the patient himſelf a deſcription of his own

feelings;

feelings; and I have frequently been ſo fortunate as to obtain the atteſtation of a ſecond profeſſional perſon; and of ſuch an one as cannot be imagined to have any ſpecies of intereſt in the favourable iſſue of the proceſs.

With whatever ſeverity the facts be ſcrutinized, it muſt, I think, be admitted, that artificial gaſſes have, by themſelves, been eminently ſerviceable in ſome of the moſt deplorable and moſt hopeleſs of diſorders. I may refer, in proof of my aſſertion, to the firſt of the following reports. In various other inſtances the reſpiration of a modified atmoſphere has probably aſſiſted towards a cure. I am led to think ſo by comparing accounts from different quarters. It ſeems placed, by their concurrence, beyond doubt, that with common care, the adminiſtration of airs is as little hazardous as of any powerful drug whatever. The efficacy of oxygene is not leaſt conſpicuous, where it has moſt diſagreed. I have publiſhed all the facts I could procure of this kind; they will ſerve uſeful admonitions: and is it not to be hoped, that by the ingenious they may be hereafter applied to ſome valuable purpoſe?

In proportion as facts are more eaſily aſcertainable in ſurgery, I feel more confident that the juice of ſorrel will not diſappoint expectation. It is for experiment to give permanent importance to this application.—It however owed its firſt importance to hypotheſis. Had I not been previouſly conſidering the poſſible agency of oxygene in the living ſyſtem, I ſhould never have liſtened with ſo much intereſt to that account of the effects of ſorrel, which obſervation of the frequency of ſcrophulous complaints in the centre of Ireland led me to

enquire

enquire out. I truſt alſo that charcoal will anſwer to the idea which ſome of my correſpondents have given of its virtues.

Theſe inferences may be queſtioned upon very different grounds. Scepticiſm is ſometimes aſſociated with ardour of enquiry, ſometimes with lethargic ſupineneſs. The following pages will not ſpeedily find a reader more ſyſtematically incredulous than their author. For I ſee not how, without ſincere ſcepticiſm, it is poſſible, in any department, to avoid error: or how without curioſity it is poſſible to attain truth.

As the lazy imbecility of faſhionable phyſicians has ſometimes ſought refuge in ſupine ſcepticiſm, I ſhall quote from a writer of authority, a paſſage in which this diſpoſition is well characterized. It is, univerſally, an object of juſt diſapprobation; but in medicine the public cannot be taught to conſider it with too great abhorrence.

" There are ſome men of narrow views and grovelling
" conceptions, who, without the inſtigation of perſonal
" malice, treat every new attempt as futile and chime-
" rical; and look upon every endeavour to depart from
" the beaten track, as the raſh effort of a warm imagi-
" nation, or the glittering ſpeculation of an exalted
" mind, that may pleaſe and dazzle for a time, but can
" produce no real or laſting advantage.

" Theſe men value themſelves upon a perpetual ſcep-
" ticiſm; - - - - - - - - - upon inventing arguments
" againſt the ſucceſs of any new undertaking; and, when
" arguments

" arguments cannot be found, upon treating it with con-
" tempt and ridicule.

" Such have been the moſt formidable enemies of
" the great benefactors of the world; for their notions
" and diſcourſe are ſo agreeable to the lazy, the en-
" vious, and the timorous, that they ſeldom fail of be-
" coming popular, and directing the opinions of man-
" kind."

The diffuſion of philoſophical or experimental truth has, however, very nearly emancipated men from that thraldom under which Dr. Johnſon here repreſents them as labouring. The editor's own experience entitles him to make the remark. And to thoſe whom the mere awe of preſcriptive abſurdity reſtrains from beneficial exertions, it may be encouraging to be told, that the entire want of all thoſe advantages, on which the ſucceſs of phyſicians is uſually calculated, has not deprived him of a large ſhare of public attention and confidence. But, if he had no correſpondent in town or country to conſign him patients; no religious ſect or great man to enrich and degrade him by their patronage; from the younger part of the faculty, and from men of inquiſitive minds, he has experienced perfect good will. This he conſiders, with regard to both parties, as an implied declaration, how unavailing they deem all known means againſt the moſt terrible of our domeſtic evils; and in general, how poor in its pomp they have found medicine.

Hitherto

Hitherto the editor has merely endeavoured to difco- ver, in nature and accident, the veftiges of a path, along which art may proceed to an end which fhe has never yet reached. He is perfectly fenfible, that he has brought very little to bear. In putting out of his hands the prefent pamphlet, which he intends as the laft of the feries, he thinks it due to his readers to make this de- declaration of his pretenfions.

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CASE I.

CAPTAIN HEMSLEY, ætat. 24, commanded a tranſport in the ſervice of Government, which went to the Weſt-Indies with Sir Charles Grey's expedition. The company conſiſted of ſeventeen men and boys, fourteen of whom died from the ravages of the yellow fever. In the month of June, 1795, he was attacked by the ſame fever; but, being ordered to England, the ſhip was re-manned, and during his being ill of the fever the ſhip ſailed. As ſhips, by ſteering to the North, quickly change their climate, it produced ſuch an effect upon him, that his exiſtence was preſerved; it could hardly be termed more: the uſe of the lower limbs was entirely loſt, and the mental faculties were ſo much impaired, as to make his friends deſpair of his recovering either his powers of body or mind. In this ſtate he arrived in England in Auguſt, 1795, and was under the care of the faculty at Goſport for about ſix weeks. After ineffectually uſing every means recommended by them, they adviſed his father to take him to Bath, inſtead of which he put him on board a veſſel, and brought him to Sunderland. In the beginning of December,

1795, his father brought him to Newcaſtle, to ſee if the uſe of the Vapour Bath would render him any ſervice: his ſituation on his arrival here was nearly as above ſtated; his feet and legs were conſiderably ſwelled from extravaſated lymph, and the knees contracted from the rigidity of the flexor tendons—theſe parts felt below the ordinary temperature of his body, and were very inſenſible to the touch. Mr. Abbs, with whom I have the honour to be connected in buſineſs, agreed with me in thinking that the Vapour Bath might be of uſe, at leaſt in procuring a relaxation of the rigid tendons; accordingly we ordered him to uſe the bath three times a week: this he continued for a month, from which he found conſiderable relief—the ſwellings of the feet diſappearing—and the tendons relaxing, ſo as to allow every ſpecies of motion; but ſtill there was no recovery of voluntary motion, nor any additional power. We gave him calomel in ſmall doſes; but ſo ſmall a quantity affected his mouth, that he received little or no benefit from its uſe. The bath having performed its duty, by increaſing the activity of the abſorbents, and reſtoring flexibility to the joints, not being attended with any further beneficial effects, was deſiſted from, and the uſe of tonics, both general and local, were had recourſe to; partial bathing to the feet, ſtimulant liniments, and electricity, wine, bark, and ſteel—theſe had an apparent good effect for ſome days, and then their power ſeemed to ceaſe; we therefore thought of giving the oxygene gas. This being mentioned to a medical friend (Dr. Ramſay), he coincided in the opinion; accordingly, on the 1ſt of February, 1796, he took two quarts of oxygene, diluted with eighteen of atmoſpheric air. After drawing in half a dozen inſpirations,

tions, he found a glow ſpreading over the whole ſurface of the lungs, and ſaid he felt as if going to break into a ſweat upon the neck and cheſt. As that part of the nervous ſyſtem which retained its power, ſeemed poſſeſſed of great mobility, might not this ſenſation ariſe from ſympathy of the external with the internal ſurface, as we ſometimes obſerve ſuch conſent between the ſtomach and the ſkin? The ſenſe of heat continued for about a quarter of an hour, and he felt nothing more from this doſe: it was repeated every morning, with his expreſſing nearly the ſame ſenſations. On the fourth morning his urine was much loaded, and depoſited a copious ſediment, of a reddiſh flaky matter, reſembling brick duſt. Sixth day; ſays he thinks his legs lighter, i. e. in lifting up either of his legs, which he does by putting both his hands round his thigh above the knee, he uſes leſs exertion, therefore we hope he has more power of motion in the leg: he has for ſome years been ſubject to a ſcorbutic eruption upon his face, which ſince his taking the gas is rather better, and appears drying with brawny ſcales. Eighth day, deſcribes the ſenſation he feels from the circulation of the blood in his leg, which he ſays ſometimes ſtops ſuddenly, and then ruſhes on again: he deſcribes the circulation ſo accurately, that the internal coats of the veſſels appear to give him the ſenſations which he expreſſes. Does not this plainly ſhew that the blood in its paſſage through the lungs, under the influence of a highly oxygenated atmoſphere, receives an increaſed degree of vitality, which it ſlowly unfolds to the other parts of the ſyſtem?

The attendants about him obſerve a great change in his conduct; for though a ſailor, he ſeemed to want the fortitude that claſs of men are generally poſſeſſed of,—

nor

nor had he that degree of jocularity, but at present his spirits are much better. Tenth day, the glow continues longer—nearly half an hour; the circulating sensation continues, and is much more frequent; his spirits increase, and he says he feels such a change in himself that he begins to have hopes of recovery.—Fourteenth day, he gathers strength of body, and his mind partakes, from the same cause, a greater degree of energy; his memory is much more perfect, and his answers are given with such a degree of quickness, in comparison with his manner previous to the taking the gas, that he scarce appears the same individual.—Sixteenth day, the urine has ceased to deposit, and as his strength encreases, the sympathetic effect upon the skin gradually decreases,—he is now enabled to stand with the assistance of crutches and his back supported against the wall. From being so long (seven months) accustomed to lie in bed, and sit on low seats, when standing erect, his head swims like a man upon a precipice, unused to such situations.—Eighteenth day, his strength increases in his limbs, and his vertigo not so considerable; can take a few steps sideways upon his crutches, and his back against the wall.—Twentieth day, recovers daily—ventures a few steps from the wall upon his crutches; when his stockings are off, his toes are perceived to have a weak voluntary motion; his face continues the same, and his spirits remain good. Twenty-third day, continues to improve—can get off his chair alone, and walks about his room on crutches—expresses a great desire to be allowed to come down stairs, in which he is indulged; it is the first time since he has been here, which is between two and three months—seems highly delighted with the change, as he expresses himself, he feels he gets better every hour;—the gas in the same quantity (2 quarts to 18) is still continued.—

Twenty-

Twenty-eighth day, the weather being fine, he is allowed to walk in the garden; the mufcular fibre which was very much relaxed, has greatly recovered its tone—particularly the calves of the legs, which were fo foft as more to refemble bags of oil than mufcular fibres, are now poffeffed of that tenfion which befpeaks health and ftrength, March 3d. continues to improve, except that his feet and legs are a little ftuffed in an evening; as the Vapour Bath, previous to the ufe of the gas, took away the œdema from the legs, he is to ufe it again. March 6th. Since he was in the bath his legs have not been fo much fwelled—in every refpect continues to improve—the pulfe has not been mentioned in this cafe, though it was attended to, but in a chronic cafe it feemed a little neceffary; it will be fufficient to remark, that at the time of beginning the ufe of the oxygene, his pulfe was about 100 ftrokes in a minute, low, and weak; that immediately upon his taking the firft dofe of gas, his pulfe beat from 8 to 10 ftrokes in a minute flower, and appeared a little more expanded; in the courfe of an hour or two it returned to the ufual ftandard, with this difference, that as he gathers ftrength the immediate effect is not fo great, and that now the ufual ftate of the pulfe inftead of being from 100 to 110, is only from 80 to 90. March 10. Continues to get better—can now walk for fome time in the garden upon his crutch.—March 15. He now ufes a great deal more exercife; complains of a numbnefs of the right hand arm. On inveftigation, this appears to have arifen from his remaining longer than ufual upon his crutches, which were not fufficiently ftuffed to prevent the compreffion upon the brachial nerve, and the large veffels of the arm.—March 20. From removing the caufe of his numbnefs, the effect has ceafed; continues the gas, which is now increafed to

three quarts.—April 9. No bad ſymptoms ariſing from the continued uſe of the gas, and as at preſent he appears ſtationary, it is thought adviſable to give the ſame doſe twice a day.—April 20. The increaſed doſe ſeems to have been of conſiderable uſe—has made more progreſs; he can now walk with the aſſiſtance of two ſticks—is in great ſpirits—entertains no doubt of getting well. May 6. Is now ſo well, and the ſeaſon ſo fine, that we have adviſed his father, who lives by the ſea, to take him home for the benefit of ſea-bathing, which we hope will perfectly reſtore him.

Extract of a letter (incloſing the preceding Case), from MR. KENTISH, *Surgeon, Newcastle upon Tyne.*

SIR,

I likewiſe incloſe a letter from my friend Dr. Ramſay of whoſe attendance and adviſe I profited during the whole of the caſe. I wiſhed his teſtimony as well as my own, for we are ſometimes led to be too partial, where we are anxious for ſucceſs. This firſt eſſay has induced the faculty of the Infirmary here to order an Apparatus; and, as my partner (Mr. Abbs) is the ſenior ſurgeon, I ſhall have an opportunity of ſeeing its effects in ſurgical caſes. Several, related both in the 1ſt, 2d, and 3d parts of your Conſiderations, would induce us to hope for conſiderable aid from it. When I am further acquainted with the reſult, I will inform you of it, when I hope to have ſome more obſervations to communicate. I ſhall hope to hear of your receipt of this; and I have the honour to be,

Sir, your obedient humble ſervant,

Newcastle, June 6, 1796.

J. KENTISH.

CASE

Letter from DR. RAMSAY.

SIR,

IT gives me pleafure to have an opportunity of adding my teftimony to Mr. Kentifh's, of the efficacy of oxygene gas, in the cafe of Mr. Hemfly.

I faw the patient after the fruitlefs adminiftration of the remedies enumerated, and was afked whether he appeared a proper fubject for a *first trial* of Pneumatic Medicine here. Anxious for a trial under lefs unfavourable circumftances, I hefitated for a while. Hopelefs however as the patient's fituation feemed to be, I at length approved of the attempt, as failure could not leffen my confidence in its general utility; and aware that fuccefs in this inftance would to others afford proof indubitable of its efficacy.

The cafe as drawn up by Mr. K. prefents a faithful and accurate ftate of facts. The conjunction of caufe and effect, that is, the adminiftration of the remedy and amendment, has feldom appeared more diftinctly in the employment of any medicine in any difeafe than in the prefent inftance. The zeal which Mr. K. has uniformly fhewn for the advancement of medicine, and his readinefs in adopting every means that promife to promote that end, entitle him to the thanks of every friend to fcience.

I am, Sir,

Your very humble fervant,

JOHN RAMSAY.

Newcastle upon Tyne,
June 10, 1796.

To Dr. Beddoes.

CASES II, III, IV, V.

OF

EPILEPSY.

Case II. *is reprinted, with some alterations, from a pamphlet entitled,* 'Letters from Dr. Withering, *and other Correspondents;*' *which pamphlet is now out of print, and not likely to be re-published. The fact I think too curious to be lost; and if, with Cases* III *and* IV. *in which oxygene air was also prejudicial, it should serve to enlarge our knowledge of a disease always so terrible, and often so hopeless, there will be little reason to regret the untoward effects produced by oxygene, which were very transitory; and what if by the rule of false, we should arrive at a successful method of treating some of those cases, in which oxygene aggravates the fits or brings them on?*

CASE II.

ABOUT three years ago, a perſon, aged 20, took an excurſion on the mountains of Switzerland. In the night he dreamed of falling from a precipice, and was ſeized, as appeared from ſevere bruiſes on his hands, with a ſtrong convulſion fit. Valerian and other medicines, called *nervous*, were adminiſtered. Sea-bathing diſagreed with him; and after cold-bathing in freſh water his fits ſuddenly increaſed from one or two in a week, to 28 in 24 hours. On diſcontinuing the cold bath, they diminiſhed in frequency, and have not, for a long time, exceeded 12 in the day and night.

The fits differ greatly in violence. The more violent, which he terms *stomach fits*, render him inſenſible; and

and continue from one to three minutes; and he is torpid for about ten minutes afterwards. Thefe fits occur only in the night. The flighter fits alfo occur more frequently in the night. He will often be attacked but once or twice in the day, and eight or ten times in the night. Thefe flighter fits loft from 10 to 15 feconds; the patient being quite fenfible, and frequently fpeaking with perfect knowledge of what is paffing, though indiftinctly. The inftant they are over he is quite well or rather relieved. If feized, when on his legs, he falls with force; and of his mufcles, fome become rigid, fome convulfed. On his chair, he may have a fit without the knowledge of a ftranger, fitting in the fame room. For a long time he was continually drowfy, and a fit was brought on by looking up to any height, or down from it, as alfo by the fmalleft effort of attention, even by reading a fingle line. But none of thefe circumftances now affect him. His appetite and fpirits he has always retained; and his faculties are faid not to be impaired.

A celebrated phyfician attempted to ftop his fits by large dofes of opium adminiftered towards evening and during the night. But the firft two grains produced a frantic paroxyfm, during which eight perfons were neceffary to fecure the patient. This ftate lafted 18 hours, all which time there was no fit, but during the fubfequent debility, they were more fevere than ufual. The fame remedy was tried a fecond time, under circumftances fomewhat different. The effect and the nature of the malady are thus ftated by the practitioner, who prefcribed it:—The patient "feldom fleeps more than an hour without experiencing a convulfive fit, which ceafes in about half a minute without any fubfequent torpor.—

Large

Large doſes of opium only prevented the paroxyſms, ſo long as they prevented him from ſleeping by the intoxication which they induced. Other medicines had no effect on him. He was gently awakened every half hour for one night, but without good effect, as he ſoon ſlept again; and the fits returned at about the ſame periods of time, for the accumulated ſenſorial power, which occaſioned the increaſed ſenſibility to pain, was not thus exhauſted."

It having been ſuggeſted that modified air poſſibly might be uſeful, I could only ſay that I hoped we could manage ſo as to do no permanent miſchief, but I could by no means vouch that the patient ſhould not experience ſome temporary inconvenience. The wiſh to be relieved from ſo diſtreſſing and helpleſs a condition overbalanced this apprehenſion.

The phyſician, whoſe words I have juſt quoted, thought of a reduced atmoſphere as moſt proper to be tried firſt. But I was induced by falſe analogies to try oxygene diluted with common air. The patient inſpired a mixture of three parts of the latter with one of oxygene, for ten minutes at going to bed. As I then uſed Mendip manganeſe, the quantity of oxygene muſt be conſidered as leſs than the numbers would otherwiſe imply, becauſe that manganeſe yields much azotic gas at the *end* of the proceſs, and becauſe the carbonic acid, which the calcareous ſpar it contains, was not probably all waſhed away. No effect being obſervable, next night (Saturday night) he was deſired to reſpire for 20 minutes; afterwards he felt an agreeable glow in his cheſt. On Monday night, at three intervals, he reſpired for half an hour. I ordered him now a ſaline draught with 20 drops

of

of antimonial wine; and I requeſted that he would drink three glaſſes of wine inſtead of four, which was his uſual quantity. On Tueſday night he reſpired for 20 minutes. On Wedneſday the air was omitted by way of precaution. On Thurſday, as no ſuſpicious effect appeared, and as he paſſed good nights, and for two of theſe days had no fits, he was ordered a mixture of oxygene one part, atmoſpheric air two parts; and of this he reſpired for half an hour, and felt uncomfortably hot afterwards. In the morning his pulſe was 72, and of natural ſtrength. He coughed ſlightly, but found himſelf very well. He had no fit all Friday. A relation who had watched him with great tenderneſs ever ſince the commencement of his indipoſition, thought him better, and wrote a favourable account to his diſtant friends. Towards night the patient was unuſually lively, but quite compoſed in intellect. The reſpiration of factitious gas was omitted, as I had originally determined to wait the event as ſoon as any diſtinct change ſhould have taken place. He had ſcarce lain down in bed when he was alarmed with ſtartings of the abdominal muſcles, as I imagined from his deſcription. This had ceaſed before my arrival, but I found him fluſhed and with a pulſe rather ſtrong, and above 100. He had a conſtant propenſity to motion, but was eaſily perſuaded to exert himſelf to keep ſtill. As he was never left alone, I was quite certain that he had taken no ſtimulant. His wine had been dropped this day. He appeared however as if at once a little intoxicated and alarmed. A ſlight fit now intervened, and increaſed his apprehenſions, for he had begun to flatter himſelf that this would prove the criſis of his complaint. As he had no evacuation all day, a gentle cathartic was given, and ſoon operated properly. In the night he had a frantic attack, ſimilar

ſimilar to that which opium had produced the firſt time; only far milder, and accompanied with ſingular agitations of the muſcles, which was a new circumſtance. His lower extremities were frequently in action, and his toes would move, like the fingers of a perſon playing on the harpſichord. Sometimes, as he was ſitting on his bed, he would lift up his feet, and ſet to revolve; and, looking at me and his relation, he would ſay, with a countenance ſuch as that with which a ſchoolboy, apprehenſive of undeſerved puniſhment, regards his maſter, *Indeed, I cannot help it!* But his moſt conſtant movement was that of his arms; and it was very curious, exactly imitating the geſtures of a perſon driving a phæton; to which the patient had been long accuſtomed every morning, but had diſcontinued it for a few days. Theſe geſtures continued frequent till Monday. He declared that he could not reſtrain them; and at breakfaſt on Monday, when he was quite ſedate, ſeemed rather amuſed with his own inability in this reſpect. For the firſt 24 hours he had only five or ſix ſlighter fits; but then he had no reſt till Saturday night; when he fell into a profound ſleep, and had the uſual number of fits of both kinds, with a paroxyſm of phrenzy early on Sunday morning. On Monday, before day-break, he had a ſimilar, but fainter paroxyſm, which was the laſt. During the reſt of Sunday night he ſlept very profoundly, as he had alſo done in the day-time. At this period the muſcular agitations were principally confined to the fingers,

He was left ſtiff and ſore, as from ſevere exerciſe: the pulſe ſoon became weak. From Friday to Sunday-night he was full of fear, except when torpid: and what is remarkable, not only was the prevailing ſtate of mind the ſame as during the action of the opium, but he was

haunted by the very ſame apprehenſion of having been poiſoned. The whole effect of the opium, I was told, laſted on its firſt exhibition, about 40 hours; that of the oxygene, which was far leſs violent, continued 12 hours longer; and the extraordinary play of the muſcles was peculiar to the latter occaſion. Indeed during ſleep it continued juſt perceptible for ſome time afterwards, as the ſame relation, who watched the patient a whole night, diſcovered; and he had reaſon to believe, that the ſame apprehenſions which he expreſſed during his excitement, infeſted his dreams. Theſe efforts, which never produced any diſturbance, ſubſided; and the patient became juſt what he was before reſpiring oxygene.

Extract of a Letter on EPILEPSY.

July 10, 1796.
Bennet-ſtreet, St. James's.

DEAR SIR,

IT is the duty of Phyſicians, who wiſh the improvement of medicine, as well to relate their want of ſucceſs, as thoſe caſes in which their remedies have ſucceeded, in order that experience may diſcloſe what we ſhould purſue, and what avoid.

CASE III.

Miſs N—— was ſubject to epileptic fits. She had been under the care of Dr. Turton, and other eminent phyſicians; and, when her caſe was referred to me, ſhe had

had no appetite, frequent borborygmi, palenefs, and coldnefs of the inferior extremities, with often confiderable heat of the fuperior and frequent flufhings. What aftonifhed many was, that fhe poffeffed the complexion of a perfon in health. The vital air, in a moderate dofe, was tried; and, though this young lady had not had an epileptic fit (fhe was, however, fubject to faintings three or four times in a day) for fome months, fhe was immediately after the inhalation feized with an attack. For fome minutes this amiable lady remained torpid; then fhe violently ftruggled with convulfive motions of the legs, and fometimes of the arms, overcoming the ftrength of her attendants. She at laft grew delirious; pointed to a particular fpot in the room; roamed in her imagination; her eyes wide glaring, and fixed: fhe then attempted to bite her attendants; and, after paffing three hours in this dreadful ftate, the hyfteric ball having gradually fubfided, fhe fetched a deep figh, and recovered, perfectly unconfcious of what had paffed. But fhe now was unable to walk, felt a violent head-ach, and went to bed. The next day, as was ufual, fhe had loft her voice. In confequence of this attack, the vital air was defifted from for a week; during which time fhe had no return of the hyfteric epilepfy: but, not conceiving at that time, that fuch an effect could arife from one application only of the fuperoxygenated air, reckoning it as an accidental occurrence, I urged another trial; but the effect was exactly the fame. I then ordered an emetic; and was furprifed to obferve the quantity of *ropy flime* that was caft from the ftomach. That night was paffed free from a hecking cough: the next day fhe was not troubled with headach, was chearful, and the lower extremities were lefs cold.

CASE IV.

In another caſe of epilepſy, Miſs L—— inhaled the vital air, and felt an immediate determination to the head; which fulneſs continued throughout the day, threatening a return of her uſual complaint. Reaſoning now on this caſe, I conjectured that, as the *aorta deſcendens* paſſes between the ſlips of the diaphragm, and this muſcle partakes of the ſame nerve as the ſtomach, it ſeemed probable, that when this viſcus was loaded with mucus, a ſpaſm or ſpaſms of the diaphragm might ſucceed, compreſſing betwixt its two crura the aorta: hence the difference of the appearance and feeling of the upper from the lower parts of the body. The loſs of voice, the globus hyſtericus, and the rabies, which frequently attend theſe fits, ſeem alſo to prove the ſame ſympathy; as the recurrent nerve, which ſupplies the throat, is a branch alſo of the *par vagum*.

CASE V.

After theſe unſucceſsful trials, Mrs. Paynter, who lives at No. 2, Brompton-terrace, came to conſult me. She had been ſubject to hyſterics, faintings, and epileptic fits, for more than ſeven years. She had no appetite, weak digeſtion, exceſſive debility, coldneſs of the lower extremities, flatulence, emaciation, diſturbed dreams, palpitations of the heart, and great lowneſs of ſpirits, Having premiſed an emetic and cathartic, and cleared away the ſuperabundant mucus of the primæ viæ, I then gave the vital air; and the accelerated blood meeting with

with no obſtruction in the aorta, now diffuſed heat through the whole ſyſtem. To prevent the glands, or exhalant arteries, of theſe parts, from throwing out too much mucus, I next gave tonics, as bark, myrrh, and ſteel; and, by uſing occaſional evacuations, continuing the daily inhalation of the vital air, after ten days the fits no longer made their appearance, and her appetite, complexion, and ſleep returned; and at the end of ſix weeks her conſtitution was ſo firmly eſtabliſhed, as to need no more medicine or air.

I am, &c.

R. J. THORNTON.

To Dr. Beddoes.

CASE

CASE VI.

MELANCHOLIA.

Letter from Dr. CRAWFORD.

July 13, 1796.
Caſtle-ſtreet, Holborn.

SIR,

MY greatly reſpected friend, Dr. Thornton, at my ſolicitation, undertook to afford his aſſiſtance to Mr. W——. The caſe of that unhappy young man, as related in a letter addreſſed to you, which the Doctor has ſhewn me, is perfectly correct. The firſt time he inhaled the vital air, the effect was truly ſurpriſing. He threw himſelf into a number of groteſque attitudes, remaining ſtiff in each he aſſumed, ſimilar to what appears in catalepſy; nor changing them, unleſs urged to motion. A dawn of reaſon ſoon after diſcloſed itſelf by ſeveral acts which were conſiſtent, and plainly evinced rational deſign. The inſtances noticed by Dr. Thornton form only a very ſmall part of the different occupations in which he engaged; and from which the moſt ſanguine hopes were formed of his being ſhortly reſtored to the full uſe of his intellects. It was with real grief his family, and all who were concerned in the management of him, obſerved, that as he advanced in the recovery of ſenſe, he increaſed in obſtinacy: and in a very ſhort time, no plan that could be deviſed was capable of prevailing upon, or obliging, him to continue the inhalation of the vital air. Here his friends ſincerely joined me in lamenting, that pneumatic medicine was not yet ſufficiently advanced, to render the exhibition of it to ſuch a patient practicable. Were rooms provided, according to the plan you have propoſed, patients of Mr. W——'s deſcription placed in them, by having alone ſuperoxygenated air to inſpire,

 might

might be aſſured of deriving from it all the benefit it is capable of producing. From the good effects which attended the ſmall portion he made uſe of, there is every reaſon to believe, that if it could have been adminiſtered in adequate quantity, the tear of ſorrow would have been long ſince wiped from the cheek of an unhappy wife, a protector would have been reſtored to infant children, who neceſſarily want his parental guidance; and cheerfulneſs would have been reſumed in a family, which has been too long ſuffering the moſt oppreſſive grief.

I am,

Sir, &c.

JOHN CRAWFORD.

To Dr. Beddoes.

Extract of a Letter from Dr. THORNTON, *on Melancholia.*

July 12, 1796.
Bennet-ſtreet, St. James's.

Mr. W——, married, aged 28, having two children, the ſon of a gentleman of extraordinary powers of mind, and himſelf once the pride of his acquaintance, for the laſt two years has exhibited the moſt melancholy picture of human nature. He neither, during this long period, opened his eyes or ſpoke: he would remain, for hours, in one poſture, with his head towards the ground, collecting the ſaliva, which guſhed from his mouth; and, unconſcious of all the decencies of life, he was commonly as loathſome as he was pitiable. His hands, feet, and face, were icy cold: his bones were abſolutely through

his

his ſkin; which of courſe was broken into numerous ſores. As he had no voluntary movement, to prevent him from ſtarving, food was put into his mouth; which was then cloſed, with his noſtrils, with the hand; and, in the ſtruggle of ſuffocation, ſome might be got down, but wholly unmaſticated. Under ſuch forlorn circumſtances, in the preſence of his phyſician, Dr. Crawford, I adminiſtered the vital air; and, to the great ſurpriſe of all preſent, after the inhalation, for more than a quarter of an hour, he reeled about the room, like one intoxicated with wine, and ſometimes ſtiffened like a ſtatue; and, when this ſtrange paroxyſm was over, he knelt down, and took Dr. Crawford by the hand, which he kiſſed, ſhewing ſigns of thankfulneſs and gratitude: and, though for the laſt two years he had been dreſſed like a child, the next morning he was obſerved to dreſs himſelf completely. I gave Mr. W—— the vital air the next day following; when he had many contortions of his face, his mouth being ſeveral times drawn awry. I then, in concert with Dr. Crawford, ordered an emetic and cathartic; and, after this evacuation, the vital air only diffuſed a glow over his whole body. The journal which I keep of my patients, diſcloſes the progreſs of the caſe; and I ſhall ſelect the alterations as they were produced. Firſt, through the operation of emetics, at the interval of ſix or ſeven days, and aloetic pills in the evening, and a tonic in the day of bark, myrrh, and ſteel, with the inhalation of vital air, warmth of the whole body was conſtantly kept up; he ſwallowed his ſaliva; then he took to chew his victuals; digeſtion now going on, with keen appetite, he grew fat, and the ulcers healed, and his cadaverous countenance was changed into the appearance of health: his reaſon alſo gradually returned, as was manifeſt by many little incidents. One day, being ordered

ordered to bathe his feet in warm water, as his attendant was out, he chofe to carry up the pail for the maid. The next day, my fervant having brought up the coal-fcoop, and laying it down in a hurry, he took it up, orderly raked the fire, and put on the coals. I fhall relate but one other incident. His father having returned home fatigued, it being dufk, and afking for a glafs of wine, he took up the bottle, and held it to the light; and, perceiving it was Port wine, which his father feldom drinks, he laid it down, and then taking up the white wine, he poured him out a glafs. He foon obferved all the decencies of life; he fat up at table with the family; would occafionally converfe; and not unfrequently open his eyes. As he grew more rational, his difpofition manifefted the moft ftubborn obftinacy, and his art was fuch, as finally to elude every method which was tried to make him inhale the vital air. It was in confequence defifted from, and I continued the other medicines, with the addition of the electric bath; which refembles a garden-box in fhape, with a feat, the infide being coated with about fixty fquare feet of tin foil; which was infulated, and connected with an electrical machine of great magnitude, and of a new conftruction. This feemed to be of ufe; at leaft the benefits above related continued in a great degree; and even the fervant, as well as myfelf, knew exactly when the emetic was wanted, by the lofs of animal heat, and melancholia, which was as conftantly removed, when the fuperabundant mucus was difcharged from the ftomach.

OBSERVATIONS

OBSERVATIONS

ON

THE PRECEDING CASES,

BY

THE EDITOR.

OBSERVATIONS.

ALL medical knowledge is undoubtedly founded upon the obfervation and comparifon of cafes. Neverthelefs, reports of the moft unimpeachable fidelity fometimes tend very little to advance the art, and not at all the fcience, of medicine. Let me fuppofe that a phyfician undertakes to inftitute an impartial comparifon between the efficacy of errhines, of warmth externally, of æther, of arfenic, valerian, emetics, and other articles of the Materia Medica, in head-ache; and that he gives in numbers the refult of an extenfive experience. If the public were not beforehand in poffeffion of a fufficient number of grofs obfervations, which may be multiplied at very fmall expence of thought, the labours of our practitioner will fhew that by trying thefe remedies one after another, we may hope fometimes to effect a cure. His figures alfo may afford fome help in judging with which remedy to begin. This information has its value, and deferves to be thankfully accepted, till better can be had. But it belongs to fcience to fort facts, to detect their refemblance and difcrepancy, to teach why one remedy fucceeds better than another in twocomplaints of the fame denomination, and why, in fome inftances, all fail. A few obfervations, arranged according to their natural affinities, are more valuable than an infinity of undiftinguifhed facts; though collections of mere un-analyzed facts, are often prefented with the utmoft good faith, and not feldom accepted with the utmoft good nature, as the only guides to folid practice in medicine. Such authors and fuch readers, little fenfible per-

haps

perhaps of the advantage of difcovering principles, are heard perpetually to decry fpeculation. But their difapprobation has fmall effect in retarding fcience.— The utility of juft theory encourages fucceffive attempts, and the difficulty of afcertaining caufes is an excufe for failure.

Thefe reflections will I hope juftify me in endeavouring to explain the chief circumftances in the foregoing remarkable cafes. However they may differ in fome refpects, they feem to me to prefent certain phenomena capable of illuftrating one another.

In the firft paralytic patient, oxygene appears to have reftored irritability to the red mufcles of locomotion. But the abforbents, which may be fuppofed alfo to be mufcular, though of a fomewhat different conftruction, did not equally, or did not at all, recover their power. In R. G.'s cafe of anafarca of the lungs, which I have related at p. 164, of *Confiderations, part* 1. *edit.* 3*d.* I was difappointed in the effects of oxygene gas. Dr. Darwin, *Confiderations, part* 3. experienced the fame compleat failure. In Sir W. Chambers it feemed in fome way to fufpend the dropfical fymptoms, and in Mr. Barbor it had pretty manifeftly the effect of rendering the abforbents fufceptible of a ftimulus, which did not act upon them before. In the prefent cafe we have a clear diftinction of great curiofity, and of great practical importance too. From its immediate and permanent effects, *oxygene muft have fpecifically acted upon the arteries, and probably upon the locomotive mufcles*; and what is extraordinary, while thefe parts were recovering their healthy functions, the abforbents of the extremities were becoming weaker. This direct fpecific power of oxy-

gene

gene is confirmed by the cafes of Danby and Trayhern. The origin of the defect of voluntary power over the mufcles, in thefe three cafes, requires attention. In the prefent cafe, was it from contagion or cold? Trayhern's palfy was, I think, evidently the fequel of rheumatifm. In Danby it was the effect of lead.

In thefe well-attefted inftances, the efficacy of the gas feems palpable, and they bear to one another the teftimony of analogy. For although Trayhern at firft took fome of the medicines entitled *tonic*, experience does not warrant us in afcribing the reftoration of his mufcular power to their agency. The recovery of fenfibility, mentioned in Mr. Kentifh's inftructive report, I confider as a fecondary effect of fome fpecies; perhaps arifing from the excitation of the brain by the more ftimulating blood.

The motions, caufed by oxygene in the cafes of epilepfy and melancholia, are fcarce lefs remote from the courfe of ordinary appearances than thofe occafioned by the application of metals to denuded nerves. Galvani himfelf could hardly have been more aftonifhed than myfelf and the other fpectators of my epileptic patient, as muft be fenfible to any one who fhall be at pains to follow my account in imagination. The phenomena, however, I imagine to be perfectly capable of a fatisfactory elucidation, which I fhall now attempt.

Pathology is on no account more indebted to the author of Zoonomia, than for the light which he has thrown upon the obfcure origin of convulfive difeafes. I do not indeed believe that every twitching of a fingle mufcle, or of a fingle bundle of fibres, is an effort to

relieve pain. Thefe lefs confiderable difeafed actions I impute to irritation; and it is to me probable that the limbs are occafionally ftimulated into convulfive ftartings. If the nerves be conductors of the power of the brain, or, if (as fome of Dr. Valli's experiments lead to conjecture) they themfelves are in any degree a fource of the *vis vitæ*, they muft, it fhould feem, like other conftituent parts of the fyftem, be liable to a difeafed condition. And a greater derivation of nervous power to any mufcle or part of a mufcle, would increafe its excitability fo as to occafion it to contract from its ordinary ftate of mere extenfion without any other ftimulation: and is it impoffible that electricity fpontaneoufly generated in parts, fhould excite partial contractions by irritation? The late experiments on animal electricity have fhewn that the nerves with their mufcles are the moft delicate of all electrometers. If thefe remarks be juft, it will follow, although the deficiency is indeed unimportant, that in Clafs I. of Zoonomia, Part II. there is wanting a genus for irritative convulfions. But with regard to fpafmodic and convulfive motions, conftituting dangerous and obftinate difeafes, I am obliged, after much doubt and inquiry, to acknowledge that they are juftly afcribed to painful or uneafy fenfation, producing morbid voluntary action.

By an undoubted law of the animal œconomy mufcular exertion is employed without deliberation, for the relief of pain. Wherever I have been able to trace epilepfy to its firft fit, I have found it diftinctly preceded by diftreffing or difagreeable feelings; and though they may be very obfcure in certain examples, they figure, in elementary authors, among the chief occafional caufes of epilepfy. In Cafe II. the frightful dream, excited by the

the tremendous ſcenery beheld the preceding day, and followed by the firſt fit, furniſhes a combination of events, that cannot eſcape the moſt careleſs reader. And the relief ſo conſtantly ſaid to be afforded by the ſlighter fits, deſerves to be pointed out as a curious confirmation of this doctrine, for thoſe fits being ſhort and not attended with any conſiderable convulſions, they muſt be regarded as relieving diſagreeable ſenſation, without much exhauſting the living power of the ſyſtem, which is ſeen to ſuffer ſo exceſſively when the voluntary muſcles are agitated by long or violent contractions. Theſe ſlighter fits, I was told, were often attended by ſome diſcharge of air; a particular that deſerves notice, ſince the fits might have ſometimes ariſen from a torpor of the ſtomach or bowels, during which the air was generated and lodged in the inteſtines.

The very ſlight incidents and exertions, which after the aggravation of the diſorder by cold bathing, brought on the paroxyſms, mark the caſe as peculiar in the degree of ſuſceptibility. I have never myſelf ſeen a patient equally ſuſceptible, except a young perſon, who having become cataleptic (probably from being the ſubject of a trick at ſchool), had for ſome time a paroxyſm, whenever the feet were moved from the bed or ſopha, ſo as to be dependent. Theſe examples of fits from ſlight ſubſequent occaſions, are apparently analogous to the intoxication and purging, which are ſaid to be producible by trifling quantities of alcohol and opium, or aloes, in perſons who have begun with enough of theſe articles to enſure the effect, and afterwards gradually leſſened the doſe.

At

At thofe times, when the difagreeable ideas affociated with the fight of a precipice, or the difagreeable fenfations occafioned by the exertion of reading, were followed by an acceffion of epilepfy, the fyftem being in its ordinary ftate, the fpafms and convulfions were of the ufual kind. The motions, occafioned by the exhibition of oxygene, betray a fpecific power in the caufe. They were not the effect of apprehenfion from refpiring the air, otherwife they would, it fhould feem, have taken place in much lefs time than a week; and they would doubtlefs have been of one or other of the two fpecies, which differed fo remarkably in feverity by reafon of the accumulation of excitability during fleep. It remains, therefore, that all the mufcles, rendered unufually fufceptible of motion, were ready to fall into convulfions, in confequence of the fmalleft ungrateful fenfation.

When debilitating powers aggravate epilepfy, they do it by increafing the fenfibility of the fyftem. Thus the prefent patient was permanently worfe after cold bathing, as alfo for a fhort time, while the fecondary effect of opium lafted. That the oxygene caufed general excitement, appeared both by the ftate of the pulfe, which was nearly fuch as is obferved in inflammatory difeafes, and from the phrenzy fits.

If in cafes III. and IV. an unpleafant fenfation was experienced, that would be followed by averfion and by a fit, without any particular power poffeffed by oxygene. A fenfe of fulnefs in the head is confequent upon greater efforts of refpiration than common; and, provided it could have been done confiftently with prudence and humanity, it would have been defirable to try, whether the fame effect would have followed the refpiration of atmofpheric

atmoſpheric air in the ſame manner, the patient not knowing what air he was breathing in the comparative experiment. A cautious reaſoner, without pronouncing it impoſſible, will heſitate before he aſcribes a fit of epilepſy to the immediate peculiar agency of oxygene in ſmall quantity, and, as I ſuppoſe, very largely diluted.

Although I have been more circumſtantial in developing theſe phænomena than the ſagacious phyſiologiſt may deem neceſſary, I ſhall ſtill beſtow a few reflections upon the caſe of Melancholia. The ſpaſms and convulſions, ſucceeding the exhibition of oxygene air, afford a curious example of the affinity between inſanity and convulſion *(Zoonomia* II. p. 354, *and elſewhere)*; as alſo does Caſe II. in which opium or oxygene produced tranſient inſanity. In the preſent inſtance, we may conclude, that no ſuch reciprocation had taken place before; otherwiſe the patient's friends would not have failed to inform the phyſicians. From the ſucceſſion of events, therefore, and the analogy of the preceding caſes, the new and ſingular motions muſt have been owing to a new condition, directly or indirectly ſuperinduced by the reſpired oxygene. Whether this conſiſt in increaſed irritability from addition of oxygene to the muſcular fibres, or in ſome effect of altered blood in the arteries that traverſe the body of the muſcle, is a queſtion not yet decided, nor perhaps eaſy to decide. It ſeems certain, that the power which had been expended on painful trains of ideas, was now derived to the muſcles; which may be ſaid to have invited it, by being rendered more contractile; and that thus the melancholy trains of ideas, which even parental affection had not power to prevent, were interrupted. At the ſame time, the action of the arterial ſyſtem undergoing ſome change, or I ſuppoſe

becoming

becoming ſtronger, a degree of agreeable ſenſation was introduced, and certain ſurrounding objects were noticed with pleaſure, as happens in incipient intoxication.

The practical inferences to be deduced from this melancholic caſe, and the three firſt epileptic caſes, are, in my opinion, directly oppoſite. Where formidable convulſions already exiſt, it ſeems obvious that no cauſe ſhould be applied which renders the muſcles more ready to be thrown into morbid action. But the propriety of making certain epileptic patients ſleep in an atmoſphere with leſs oxygene, which had already been propoſed upon analogical grounds, is very ſtrongly confirmed by theſe ſeveral concurring facts. The patients, who would reap moſt advantage from this expedient, I apprehend would be thoſe whoſe acceſſions are moſt frequent or ſevere in their ſleep; and if they were young perſons of *sanguine* temperaments and *plethoric* habits, as they have been termed, they would ſtand a ſtill greater chance of being benefited by a reduced atmoſphere.

In bad caſes of melancholy madneſs, the riſk of exciting ſome degree of convulſion may reaſonably be run; and it may be proper to ſupport and vary by opium, adminiſtered during the intervals, and alſo by the warm bath, the pleaſureable ſenſations occaſioned by oxygene.

The viſcid mucus, ſo commonly noticed in caſes of inſanity, I ſuppoſe to be in itſelf inoffenſive; and occaſional emetics ſeem uſeful, not by eliminating this matter, but by changing that condition of the ſtomach, by which it is produced, and which is accompanied with great torpor of

moſt

most other parts of the system, except perhaps those employed about the distressing ideas.

To these reasonings I shall subjoin a short account of two illustrative cases. I owe the first to a physician in my neighbourhood; and think, that as cause and effect seemed palpable even to the patient, it may be useful by reminding those whom it may concern, of the propriety of making the necessary inquiries in similar circumstances.

" In the latter end of the year 1794, I attended a " young person who was ill of an asthma. She was un-" expectedly attacked with epilepsy. The fits returned " frequently in the day, and almost every day for seve-" ral months. For a length of time, notwithstanding " the strictest enquiry, no cause, apparently sufficient to " produce these effects, could be discovered. At last, " excruciating pains in making water overcame the par-" ticular false delicacy, and obliged her to disclose their " source, which was an acrid discharge, excoriating the " vagina, proceeding from a diseased uterus."

This is a good example of the origin of epilepsy. I have elsewhere mentioned, in general terms, that I had observed stricture induced, and rendered tighter in asthma, by the respiration of diluted oxygene gas. This has occurred in two cases. One was in a gentleman who for many years had not passed 24 hours without a fit, and whose heart had become dilated before I saw him. His was among the very first cases in which I ever directed the exhibition of airs. The dilapidated state of his health rendered me excessively suspicious. It was evident on several trials, that oxygene, which I

had taken care to dilute largely, brought on difficult breathing and ſtricture immediately. The patient deſired me to proceed till I had ſatisfied myſelf. I was convinced, that no increaſed effort of inſpiration, or other mechanical circumſtance, produced the bad effect, becauſe it did not take place with hydrogene gas diluted. I loſt ſight of the patient before I could give this method a proper trial.

The other was the caſe of a perſon, above twenty, weak from rapid growth, and who had been long ſubject to nervous head-ache and daily fits of extremely difficult breathing, with ſtricture, which did not terminate in expectoration. There were circumſtances in which the caſe was different from common ſpaſmodic aſthma. The patient was conſtantly obliged to ſit quite erect; if, in ſleep, this poſture was changed, awaking in diſtreſs was the conſequence. The moſt ſtrict enquiry did not give reaſon to ſuppoſe water in the cheſt. After a three-week's courſe of oxygene, in the proportion of one, two, three, and once five quarts, to 30 of atmoſpheric, the patient and the phyſician became reluctantly convinced, that ſome increaſe of the tightneſs of the cheſt was produced by it.

It appears, therefore, that when a habit of ſpaſmodic and convulſive actions has taken place, they will in ſome caſes be renewed and aggravated, in conſequence of ſome change this ſubſtance produces in the muſcles. The ſame thing appears in Caſe II. with reſpect to deliberate voluntary motions. Long habit had given the muſcles, employed in driving an open carriage, a tendency to act together and in ſucceſſion; and this, added to the propenſity, acquired from the gas, produced the

gestures that occupied so much of the time between Friday and Monday morning.

There are, however, circumstances in which the cure of spasms and convulsions is the consequence of respiring oxygene; as is evident from the cases where asthma has been mitigated, or has disappeared, under the daily use of oxygene for months; and from a very remarkable case of spasmodic seizures, apparently affecting the diaphragm, in which opium, largely administered, having lost its effect, oxygene was given with complete and permanent success. The first part of this history is given in the *Collection of Letters*, p. 36. Of the result I have been informed by letter from the patient's friends, who are persons of much eminence in the medical world.

What these circumstances are, I have not been able precisely to determine. But, if ever an exact catalogue of them all be made out, they will, I believe, be found referable to one or other of the two following laws.

1. OXYGENE SOMETIMES, BY RESTORING THE ACTIVITY OF A LANGUID PART, REMOVES THE SENSATION THAT OCCASIONS THE CONVULSIVE EFFORTS, AND SOMETIMES—*(see this exemplified on a principle somewhat different, in the case of head-ache, related by Dr. Darwin, in Considerations, Part III.)*—BY DIMINISHING SENSIBILITY, OR GIVING GENERAL ENERGY TO THE SYSTEM, DESTROYS HABITS OF MORBID ACTION.

2. WHEN IT PRODUCES NEITHER OF THESE EFFECTS, IT AGGRAVATES SPASMODIC AND CONVULSIVE COMPLAINTS.

AMONG the authors who flouriſhed in the period between the appearance of the Chemiſts or Anti-Galeniſts, and that of the more modern ſyſtematic writers of the Continent, there are ſome that may ſeem to have entertained ideas on the origin of convulſion, ſimilar to thoſe of Dr. Darwin.

Their expreſſions were probably ſuggeſted by Van Helmont's reveries concerning his Archeus. The Stahlians will be thought to approach ſtill nearer to the ſame theory. The two following paſſages from Sauvages (Clas. iv. Ord. iv. 19) will illuſtrate theſe remarks.

Motus muſcularis, ait Sennertus, *nunquam fit citra appetitum aut rationalem, aut sensitivum; cum itaque voluntas seu appetitus rationalis non jubeat motum, illum* a cupiditate ſeu appetitu ſenſitivo JUBERI *manifestum est.*

Again. *Quae in corpore vivente fiunt operationes ab anima ejusque facultatibus proveniunt, unde hos etiam inordinatos motus naturam solam excitare extra dubitationis aleam est* (Schneider. de Epilepſia).....*Causa (epilepsiae). Acerrimum facultatis naturalis expultricis, contra molestias irritantes, in universo musculorum genere excitatum certamen. (Idem.)*

Notwithſtanding

Notwithſtanding ſuch a degree of reſemblance in expreſſion, it is probable that a diligent ſcrutiny would evince a wide difference between preceding authors and our contemporary, with regard to the principle itſelf, the phaenomena connected by it, and its practical application. An enquiry into the difference or coincidence might be curious. But, inſtead of entering into it, I ſhall lay before the reader a piece of information, which will prove ſatisfactory to him, very nearly in proportion to his benevolence, and to the intereſt he may take in the advancement of uſeful knowledge.

Letter from Mr. KENTISH.

Newcastle, Aug. 12, 1796.

SIR,

I SHOULD have acknowledged the receipt of your obliging letter ſome time ago, had I not waited to ſend you the ſequel of the caſe; which, from my former account, would appear unfiniſhed, and might not receive the credit it merits from uncandid readers, or thoſe prejudiced againſt the pneumatic practice. I ſaw Captain Helmſley a few days ago, which is the firſt time ſince I ſent you the report. He has not taken any medicine ſince he left us, and has regularly purſued the riding and walking exerciſe recommended. His recovery has been progreſſive; and I have at preſent the inexpreſſible pleaſure of aſſuring you, that I ſaw him walk without the aid of either ſtick, crutch, or any aſſiſtance whatever. In ſhort, when I reflect upon the helpleſs, nay, hopeleſs ſituation he was in when he came to Newcaſtle, with every probable appearance of his remaining ſo during the remainder of his exiſtence (for he had gone through ſeveral ordeals of medicine) I find terms inadequate to expreſs my thanks to thoſe who have placed ſuch means in my power. On further inveſtigation, I find, by ſome of his acquaintance, that the eruption of his face is attributed to the too free uſe of liquors. Should we, on further trial, find that oxygene gas is of uſe to reſtore *power* to a ſyſtem, which has been excited to too great action

by

by free living; which consists in general of substances highly hydrogenated, it will be invaluable; for we find most of the diseases of the present day to be of this class —for few are the orders of Society who do not live above par. In a case of dropsy I have given oxygene gas; at first the effects were very salutary, increasing the secretions by the skin and kidneys; but, from the impatience of the young gentleman, who wished to be well at once, he increased the dose, so much that he excited a short dry cough, which obliged him to abstain from its use: thus depriving himself of the benefit that was likely to have arisen from its use, and drawing an unfavourable conclusion, from his being obliged, through prudence, to give it over. I thank you for the hint respecting the purity of the oxygene air. I have tried what I have made with nitrous gas, and find it equal to that obtained from the red oxyd of mercury; and, by putting quick lime into the refrigeratory, and using the agitator, I keep it very free from carbonic acid gas. I sometimes use Monsieur Seguin's method, of trying its purityby inflaming phosphorus in the gas over mercury. It is mentioned in the Annales de Chymie. In one case in the Hospital here, oxygene gas has been of use internally, given for the cure of an ill-conditioned ulcer. A fermenting cataplasm was used at the same time. I have no doubt, when impartially viewed, that great benefit must accrue from its use in Hospitals, as the atmosphere in them is generally below par in respect to oxygene gas.

I have had an opportunity of paying considerable attention to a species of accident very common among colliers in this part of the country: viz. burns from the explosion of hydrogene gas in the mines. The

little

little information to be got from authors, and the contradictory applications they recommend, has made me think and act for myself in the treatment of them; in which, at present, I hope I have established one or two principles, which may be of use to be known. I purpose giving a comparative view of different modes, illustrated by cases under my own inspection: as I am induced to think it is the want of this comparison that makes the treatment so indecisive.

I am, dear Sir,

With the greatest respect,

Your's sincerely,

E. KENTISH.

To Dr. Beddoes.

CASES

CASES

OF

ASTHMA, SPASMODIC AFFECTIONS,

CHLOROSIS,

AND

OTHER DISEASES OF DEBILITY,

In which Oxygene Air was used.

CASE VII.

Note from James Hare, *Esq. M. P.*

I Willingly confent to publifh my cafe, in hopes that other perfons may obtain relief from fimilar treatment. For near eleven years I have been fubject to frequent attacks of nervous afthma, under which I fuffered inexpreffibly. Blifters on the cheft, with expectorant medicines, ufually relieved me, though not till after many hours of agony. I was troubled with this diforder more in damp than in frofty weather. If I caught cold, I fcarcely ever efcaped it. My ftrength and fpirits were very much affected for a long time after the difficulty of breathing had left me. About the middle of September laft (1795) I began to take oxygene air, by the advice and under the direction of Dr. Beddoes. In a few weeks there was a fenfible and vifible improvement in my general health. Towards the end of October I caught cold, and had a pretty fevere fit of afthma, though much lefs fo than many former ones. From that time to the prefent I have only had five attacks, all flight in degree and fhort in duration. For many years paft I have fuffered much from illnefs in the fpring; but this fpring I have not been confined for one hour; and, during the whole ten months I have enjoyed a much better ftate of health than for many preceding years. Hot rooms and damp weather affect me much lefs than formerly; and I have caught cold feveral times without its bringing on an afthmatic fit. Having taken the oxygene air once a day (with few interruptions) for about nine months, the beginning of this month I difcontinued it;

in hopes that I may go through the ſummer without its aid, and ſo reſerve it for future exigencies.

J. HARE.

Conduit-street,
July 29, 1796.

A Letter from Mr. PHIPPS, *Surgeon and Oculiſt in Ordinary to his Majeſty—on Aſthma.* *Cases* VIII. IX.

Pall-Mall, Auguſt 8, 1796.

SIR,

Mr. Stepney having mentioned to me that a ſervant who attended him had been afflicted with a ſpaſmodic aſthma above thirty years, I recommended him to place him under the care of ſome perſon in the habit of adminiſtering factitious airs. Accordingly he did ſo. He was ordered a more generous mode of living; and whenever his diſeaſe has threatened an approach, it has been invariably put off by inhalation of vital air. During the laſt eight months, he has had but two paroxyſms, which were ſo ſlight as not to confine him to his bed, as heretofore; and I ſhould add that his ſon, who, upwards of ſeven years, had conſtant dyſpnœa, with frequent ſpaſmodic attacks of aſthma, was alſo cured four months ago by the ſame remedy in ſeven days, and when I ſaw him lately he was blooming, and in perfect health.

I remain, Sir, &c.

J. W. PHIPPS.

To Dr. Beddoes.

SPASMODIC

SPASMODIC *or* ASTHMATIC SEIZURE *of the* DIAPHRAGM. *Case* X.

Letter from the same.

DEAR SIR,

I have juſt received a letter containing a requeſt of yours, that I would ſend a particular account of the caſe of a young lady who had been cured of violent ſpaſms in the ſide, by means of oxygene air. I heartily wiſh it were in my power to do it with more minuteneſs, but I kept no journal of the caſe. The lady had for nearly three years prior to her inhaling the oxygene, been afflicted with ſpaſms in her ſide, and indeed, thro' the whole extent of the diaphragm, which appeared to me the immediate ſeat of the complaint. For the firſt two years, they were not conſtant and only ſlight, very bearable, and eaſily removed by a few drops of laudanum. During the laſt year, they encreaſed (I believe from mental anxiety) to a degree truly terrific. She was now *never* totally free from pain; and generally morning and evening the ſpaſms became ſo dreadful, that I cannot find words to convey an idea of them. They would continue half an hour, one, two, three, and even ſix and eight hours. Laudanum to the quantity of three hundred drops produced no other effect, than to render her perfectly delirious. Her breath was alſo at this time ſo much affected, that ſhe could not go up or down ſtairs, without reſting every few ſteps, and panting to a degree that was frightful. In this ſtate (during the ſpaſm) ſhe firſt breathed oxygen air, in the proportion of about three pints to twelve or fourteen of atmoſpheric air, and it almoſt inſtantaneouſly removed the ſpaſm. This ſame

effect was generally obtained, and there were two and even three days sometimes together during which she had no strong spasm. Nor do I think, after the first week of inhaling the oxygene, they ever returned with the same degree of violence. I found it necessary however to encrease the quantity of oxygene to about six pints to the same proportion of atmospheric air. Thus I gave it constantly at the commencement of the spasm, and always with effect; sometimes complete, and sometimes only so far successful as to render the spasm bearable. After about three months there was a considerable amendment, the spasms were slight and less frequent. She soon after married, and had not the least return for a year and a half; at the end of that period she had some spasmodic feelings, but they were slight, and of short duration: since (that is for above a year) she has been perfectly well. These I believe are the leading features of the case, and I only wish I could have transmitted them to you with greater particularity. I have this morning seen the lad I mentioned in my last, as cured of asthma, he has had no return whatever, and it is now more than three months since he left off the vital air, which he inhaled for six weeks. I have only to add, that

I am, Your's, &c.

J. W. PHIPPS.

N. B. A physician, who had been consulted in this case, in a letter of a date subsequent to that of Mr. Phipps, writes that the lady "now enjoys robust health."

ASTHMA. *Case* XI.

Letter from Mr Baynton, Surgeon, of Bristol.

Mrs. ——, aged 32, corpulent, and of fair complexion, had been in the habit of miſcarrying, at about the third or ſixth month of pregnancy, for eight or ten years previous to January, 1795, when, after an obſtinate cough, which had effected her the greateſt part of the preceding Autumn and Winter months, ſhe was attacked on the 16th in the evening by a complaint that very much reſembled the paroxyſm of ſpaſmodic aſthma, except that it was much more violent than firſt attacks of that diſeaſe uſually are, and that its remiſſion was attended with a very copious diſcharge of frothy ſerum from the bronchial tubes, which was thrown up by a ſlight, tho' almoſt continual cough. A large doſe of opium was immediately given, a bliſter applied to the cheſt, and a mixture compoſed of oxym ſcil, gum ammon and pure water, directed to be taken every ſix hours. The 17th ſhe was much better; the anodyne was repeated at bed-time, and, as the cough was ſtill troubleſome, ſaline draughts, with camphorated tincture of opium, were directed in lieu of the mixture. Her cough ſoon became better, and the Summer was paſſed over without much inconvenience, by the aſſiſtance of occaſional opiates, open air, and cool acidulated draughts of water. On the 27th of September ſhe was again attacked ſomewhat violently. An opening mixture, a bliſter, and occaſional anodynes, were again had recourſe to, with apparent good effect. On the 4th of October another bliſter was applied to the ſternum, the ſquill pills were preſcribed,

and

and the opiate repeated. From that time till the 3d of January, 1796, ſhe went on without experiencing any material alteration, but not without the occaſional aſſiſt-ance of medicines of the kind above mentioned. On that day ſhe was attacked with hyſteria, and was relieved by the bark, after the bowels had been emptied by an opening medicine. On the 23d of April, after experi-encing much depreſſion of ſpirits and coldneſs of her feet, ſhe became affected with a numbneſs of the left ſide; the muſcles alſo on that ſide of her face were drawn upwards, and ſhe talked ſo indiſtinctly that her friends were ſometimes at a loſs to underſtand her meaning. Her bowels and pulſe were in a natural ſtate, and her mind very much depreſſed. She had a pain over one of her eyes, and was very drowſy. The bark was again had recourſe to, and the fœtid gums directed to be taken in the uſual doſe and manner. From that time until the 23d of the enſuing month (May) ſhe continued to take medicines of a ſimilar kind, with but little good effect. On that morning, about five o'clock, after having had a good night's reſt, ſhe was ſuddenly ſeized as ſhe had been in January, 1795, with dyſpnœa, attended with a convulſive kind of cough, which in leſs than five mi-nutes from the time of attack increaſed ſo as to produce the appearance of ſuffocation. Her ſenſes forſook her, her face became livid, her extremities cold, and the action of the heart was ſo much diminiſhed that no pul-ſation could be felt in the wriſt, and but very little in the left ſide. As much blood as could be taken from the arm was immediately evacuated, it amounted to only about four ounces. A ſtrong ſolution of white vitriol, in water, was conveyed into the ſtomach, without pro-ducing any effect. Large doſes of emetic tartar were

alſo

alſo got down every ten minutes, but no effect followed; and ſhe remained in a ſtate of complete aſphyxia nearly two hours: during which time a very large quantity of frothy ſerum, tinged a little with blood, was diſcharged, without any viſible effort, by the mouth and noſtrils. About the end of that time ſome very faint and involuntary efforts to cough came on, which gradually increaſed, and with every effort large quantities of the frothy ſerum were thrown off; perhaps the whole quantity might amount to three or four pints. About three hours after the time of attack the difficulty of breathing became very ſenſibly diminiſhed, and her ſenſes were obſerved to return. Then the medicines that had been given to occaſion vomiting operated in a moderate degree, and occaſioned the diſcharge of the contents of the ſtomach, which were not remarkable for any peculiarity either in quantity or quality. She recovered ſo faſt as to be nearly in the ſame ſtate of health that ſhe had been previous to the attack, before the evening of the ſame day, except that the paralytic ſymptoms were completely removed, and ſo unuſual a deſire for cool freſh air induced that ſhe could ſcarcely exiſt if any perſon by chance placed himſelf between her and either of the windows, which from that time were obliged to be kept open night and day. At the commencement of this attack, in my abſence from home, a phyſician of eminence was called, who preſcribed the remedies that were exhibited during the paroxyſm, and in addition directed muſk draughts and a bliſter for the cheſt. When the paroxyſm abated, from that time till the 5th of June her impatience for cool freſh air increaſed to ſo alarming a degree, tho' ſhe had been removed into a country ſituation, that ſhe frequently appeared in danger of ſuffocation. Her face almoſt always appeared bloated, and of that blue peculiar

appearance

appearance that is characteristic of obstructed circulation in the vessels of the lungs. On that day you were requested to see her, and directed that the opiate should be again had recourse to; that a mustard emetic should be taken; that a teaspoonful of spir. æth. vitriol. should be taken, in a wine glass of water, two or three times a day; that exercise on horse-back should be used twice a day; and that a superoxygenated atmosphere, composed of two parts oxygen and eighteen of atmospheric air, should be inspired morning and evening; and at the same time requested, as the disease was so uncommon, that the opinion of a physician in the North, who has distinguished himself by the ingenuity of his productions, might be taken upon the case. It was accordingly sent him, and from that time to the 18th when his answer was received, the patient continued to pursue the plan that had been suggested by you, with apparent advantage. It was considered by him as spasmodic asthma, and extraction of diseased teeth, oxygen, electricity, and the following medicines were prescribed:—a scruple of the peruvian balsam, at eleven in the forenoon and at four in the evening, in the form of a draught; and half a grain of opium, as a pill, early in the morning and late at night. The opiate in this way failed to afford relief, and occasioned so much drowsiness and distressing constipation, that on the 21st, by your direction, a quarter of a grain of opium only, combined with six grains of rhubarb, was taken every night at bed-time; and a decoction of the yellow bark, with cardamom and orange peel, twice a day. The costiveness was by these means removed, and she for some days thought herself better; but her impatience for cool fresh air by the end of the month had so much increased that it was thought advise-

able

able to remove her into a ſituation more open, and at a greater diſtance in the country. On the 19th of July you ſubſtituted the following for what had been laſt preſcribed, with temporary good effect:

R. Cort. Salicis latifol Unc. ii ſs.
Aq. ebull—lib ii infund. per horas xii cola.
Colaturæ adde Aluminis dr. iii cap. coch. iii major. ter die.

Her ſitting-room, at her new ſituation, had three large windows and a door, ſo conſtructed as to be oppoſite each other, and nearly in the direction of the points of the compaſs; but though the houſe ſtood alone on an eminence, and all the windows and the door were kept conſtantly wide open, night and day, the neceſſity for freſh air became by the 10th of Auguſt ſo great, that I then ſaw her much diſtreſſed by a perſon placing himſelf by accident a few moments only between her and one of the windows. On that day two grains of the Extract of Hemlock, with an equal quantity of Opium, were directed by you to be taken when the impatience for freſh air was moſt diſtreſſing, in an ounce and a half of the Camphorated Mixture, with which a drop of the Oil of Cinnamon had been previouſly mixed. At this time alſo ſix glaſſes of wine were directed to be taken in the day. She again thought herſelf much relieved by the alteration of the medicine, and the allowance of wine. But at my viſit in the evening on the 13th, I found her on an open down near her lodgings, ſo diſtreſſed for want of purer air, that I was forcibly reminded of the Calcutta ſcene. Her pulſe were oppreſſed and irregular, her countenance of the cœrulean appearance that had been obſerved in the moſt diſtreſſing ſtate of her complaints, and I thought

 I obſerved

I obſerved an incoherence in her manner that was unuſual; when a friend who was with her whiſpered to inform me that ſhe was light-headed. I now expected the epileptic return, and loſt, in the proſpect of preſent danger, the hopes which had been occaſioned by the effects of the tonics and the occaſional abſence of the paroxyſms. I was however agreeably deceived by the gradual recovery that followed in a few hours after, but the event made ſuch an impreſſion on my mind that I thought much of it in the interval that occurred between that time and my viſit the next day; and from the effects that had conſtantly followed the exhibition of tonics, which had been more manifeſt when the additional quantity of wine was taken, I thought that as the cold-bath had not been tried, and as it had been ſo ſtrongly recommended by Dr. RYAN in a late work of his, that if you approved it ought to be immediately made uſe of. Accordingly on that day you were conſulted as to its propriety: and, with the precaution of a temperate bath being firſt tried, you conſented to its uſe: but recommended that the Saline Bath in the road to the Briſtol Hotwell ſhould be preferred. On the morning of the 15th ſhe firſt bathed there; the bath being previouſly raiſed by a few pails of boiling water to the temperature of 55. The relief experienced was ſo great, that ſhe felt and expreſſed an immediate aſſurance of her recovery. By my deſire the cold-bath was uſed the 17th and 20th. The ſame good effects followed. You were then made acquainted with the event, and deſired that ſhe might uſe it every day, ſince which time ſhe has been, if poſſible, more ſenſible of its good effects; and from that time to the preſent, a period of 7 weeks, has not differed in any reſpect from a perſon in the beſt ſtate of health, except

that

that the catameniæ which had not appeared during the last two months, have not been obferved to return. I have thus given you the hiftory of this very remarkable cafe; and if the fact, by publication and your reafoning upon it, can be made in any way ufeful, I fhall confider myfelf happy in having had it in my power to prefent you with an accurate and faithful detail.

Dr. Beddoes. THOMAS BAYNTON.

CASE XI.

Spasmodic Asthma.

THE Editor has before him two letters from FRANCIS GREEN, Efq. of Denmark-Hill, Camberwell, refpecting one of his daughters, aged 18, who had been for feveral years violently afflicted with fpafmodic afthma. The letters are dictated by that warmth of kindnefs, which an affectionate parent feels towards thofe whom he confiders as having been inftrumental in refcuing his child from an obftinate and moft violent diforder. The following are the facts ftated by Mr. Green. The paroxyfms, before the patient's arrival at Briftol Hotwells in October, 1795, had "come on periodically once a-week. There "fhe grew *much worse*, until fome fhort time after I had "the pleafure of meeting with you. I muft acknowledge "I think the vital air has been very beneficial to her." This letter is dated September 14, 1796. The effential part of the 2d letter runs as follows:

DEAR

Dear Sir,

MY dear daughter, as well as my whole ſamily, have every thing to thank you for. The morning we left Clifton, (where Mr. G. had continued a month) turned out very bad. We had wind and rain nearly all the way to Oxford; what increaſed our fears moſt was, we loſt the air from the air-holder, it being unfoldered. We ſpent the next day there, and although the weather continued very indifferent, to my great ſurpriſe my daughter remained well.

The day following we reached home and waited with anxiety for the apparatus, fearful of the return of the complaint, but to our great joy I aſſure you ſhe has not had a fit ſince. We have continued the uſe of the air except at ſhort intervals, and about two months back took her to Brighton by way of trial, but the ſecond day after our arrival, (the weather was very changeable) perceiving a weakneſs in her eyes, which I have always conſidered as a ſymptom of the old complaint, we returned immediately to Camberwell, where after ſtaying a ſhort time, the weather coming on fine, we came again to this place for another trial, and have the ſatisfaction to ſay ſhe has continued well without the uſe of the air.

I am, dear Sir, &c.

FRANCIS GREEN.

Brighton,
September, 1796.

Extract

Extract from a letter from Dr. THORNTON *to* Dr. REYNOLDS.

CASE XII.——*Dyspnœa.*

IN the Spring succeeding the severe Winter of 1795, which was characterized by inflammations of the chest, the patient you did me the honor to confide to my care suffered with others. The apothecary, who at that time attended, neither bled or blistered him. As the sequel to this inflammatory attack, he has been subject to dyspnœa, more especially upon using the slightest exercise. Now, my dear Sir, in such unfortunate subjects, where the lungs were inflamed, I have found upon dissection, *obliterated air-cells*, and, where the pleura was the seat of the inflammation, *numerous adhesions*. In either case little can be done or expected from medicine. Nevertheless, as the disease might be palliated, and the constitution strengthened, by the inhalation of an atmosphere of a higher standard, the trial was authorized, and the case is beautiful in itself as throwing considerable light on the subject of respiration. Mr. A. before the inflammatory attack on his lungs was florid, and of a clear complexion: he had once even hæmoptoe; now his cheeks are devoid of colour, and his aspect extremely bilious. Before, heat was insufferable; now he enjoys a fire even in the midst of Summer. Before, his pulse, as he informs me, was accounted full; now it vibrates feebly and quickly. Whilst he inhales a super-oxygenated atmosphere, he always feels his respiration easy; his parched hands become sensibly moist; he has a glow and tingling sensation in his fingers; and as Dr. Haighton, the lecturer on Physiology at Guy's-Hospital, noticed, his pulse is rendered both slower and considerably

stronger.

ſtronger. Immediately after this eaſy proceſs, he has obligingly gone down ſtairs, and upon coming up again, he has breathed perfectly free, as many ſpectators have witneſſed. In this caſe might not a conſtant inhalation of an atmoſphere of a higher ſtandard produce the moſt certain and eſſential ſervice: but this, my dear Sir, is reſerved for a more advanced ſtate of the Pneumatic practice, when rooms ſhall be fitted up for that purpoſe.

I have the honor to be, &c. &c.

R. J. THORNTON.

Obſervations on this Caſe.

1. This inflammation of the lungs was occaſioned by looking over furniture, which was kept in a damp room. To remove the chill this produced, (which is generally the forerunner of fever) recourſe was had to brandy and water; and Mr. A. took white wine whey at night, the pernicious conſequences of which practice Dr. Beddoes juſtly deplores. Vide Obſervations on Fever, *Catarrh*, &c. Printed for Murray.

2. Do not nine dyſpnœas out of ten proceed from previous inflammation of the organ of reſpiration?

3. Can adheſions, when they take place, be elongated by the adminiſtration of emetics?

4. Can obſtructed air-cells be renewed by a frequent and forcible expanſion of the lungs?

5. When coagulable lymph is depoſited, can this be abſorbed by paſſing into the lungs ſubſtances ſuſpended by the active powers of certain airs? R. J. T.

CASE XIII.——*Dyspnœa.*

July 2, 1796. *Bennet-street, St. James's.*

Dear Sir,

THE ſubject of this report is a very corpulent gentleman, who had been afflicted more or leſs with dyſpnœa for twenty years, and under different phyſicians with little or no alleviation of his complaint. Mr. Colvin had commonly but ſmall appetite; was troubled with dyſpepſia; and of a coſtive habit of body. Upon coming up ſtairs he was accuſtomed, as he gave at firſt evident demonſtration, greatly to puff and blow; having, as he expreſſed himſelf, *no wind.* He was troubled with lowneſs of ſpirits; his body was diſtended; and his nights were ſo diſturbed, that he ſeldom ſlept three hours together. After he had been under my care but a fortnight, he came with his partner, Mr. Lowndes, a wine-merchant at Temple-Bar, who aſſured me, that he thought Mr. Colvin was better than he had ſeen him theſe laſt eighteen years. Having inhaled ſix quarts of vital air mixed with thirty of atmoſpheric, this gentleman felt, as uſual, the eaſieſt reſpiration; a genial glow with perſpiration; vigour, and *lightsomeness;* or in a word, for theſe are his own expreſſions, *the sensation of indescribable health.* Upon aſking him, whether he perceived he was

ſtronger?

ſtronger? in an energetic tone of voice, he declared, *he felt five times as strong;* he added alſo, that his appetite was returned; and his ſleep was undiſturbed and continued throughout the night. He then went down ſtairs in the preſence of Mr. Lowndes and Mr. Curtis, the ſon of an eminent ſurgeon at Chiſwick, and having come quickly up ſtairs, he was able freely to diſcourſe with us *immediately*, which Mr. Lowndes declared, he had not done for years, nor was this a tranſitory effect, for the ſame was obſerved by all his friends both at home and abroad.

Observations on this Case.

1. Did not the corpulency of this gentleman denote a deficiency of oxygen in the ſyſtem? Let the reader here conſult your obſervations on Obeſity; printed for Murray.

2. Did not his dyſpnœa depend wholly, as in chloroſis, ſcurvy, putrid fever, &c. upon a want of a due quantity of oxygen, or vital air, in the blood?

3. Did not his defective appetite, impaired digeſtion, flatulence, coldneſs of the extremities, and torpor of the alimentary canal, proceed alſo from a want of a due quantity of the ſame principle; for in proportion as his ſyſtem was more oxygenated, all theſe diſtreſſing ſymptoms diſappeared?

4. I ſhould perhaps here obſerve, that as I ſupplied the lungs with air, I was mindful to obviate coſtiveneſs, and gave the ſame tonics, which before had been often and ineffectually applied,: Are we not therefore in this caſe to attribute the cure almoſt wholly to the exhibition of the ſuper-oxygenated air? R. J. T.

Extreme Weakness, or what would not be improperly called a Decay of Nature.

CASE XIV.

July 4, 1796. *Bennet-street, St. James's.*

Mrs. ROBERTS, aged ——, who lives at No. 43, Piccadilly, was more than twelve years ill. She had been succeſſively under the moſt eminent Phyſicians, firſt under Dr. Pinkſton, then under Dr. Cadogan, next a full year under the celebrated Dr. Cheſton of Gloceſter, from him ſhe paſſed under the hands of Dr. Farmer, of that city, who attended for two years, and ſhe was next under a diſtinguiſhed practitioner of Bath, and ſo ſhe went from one able practitioner to another; ſhe was at laſt ſo reduced, that ſhe was not only confined to her room, but could ſcarce get from her bed to an eaſy chair, which was placed in it. Dr. Merryman now attended her. Her appetite was gone; her ſpirits ſunk; her countenance hippocratic; and her nights were not unfrequently without ſleep. Being called in, I premiſed a mild aperient, and afterwards ordered bark and lime-water, and gave Mrs. Roberts the vital air. At the time of inhalation this lady felt greatly relieved; the yellowneſs of her complexion ſoon wore off; ſhe had a glow of warmth; her appetite and perſpiration were eſtabliſhed; and ſo ſudden was the amendment, that in leſs than a month ſhe was reſtored to perfect health, and has continued ſo (except a ſlight diſcolouration [blackneſs] of the leg, which was removed by the vital air in a few days) now for above four months.

I am, dear Sir, &c.

Dr. Beddoes. R. J. THORNTON.

P. S. The quantity of vital air given was ſix quarts to thirty of atmoſpheric.

CASE XV.

Communicated by Dr. Lawrence, of Swafham, Norfolk.

December 30, 1795.

MISS L. G. 19 years of age, had a fuppreffion of the Menfes for more than two years. Her countenance was pale in the extreme, lips white, appetite impaired, general fenfation of coldnefs, and averfion to exercife. Chalybeates, with other deobftruent and aperient medicines, were directed for her ;—as thefe had been continued for three weeks without the defired fuccefs, fhe inhaled on the 20th of January, 1796, a mixture of three quarts of oxygene and 19 quarts of atmofpheric air. It was administered only once a-day, and in lefs than a week the patient was enabled to walk nearly three miles every morning for that purpofe, with great eafe, which fhe could not do at firft without much fatigue ; fhe attended afterwards with lefs regularity, not more than 12 dofes having been inhaled in three weeks. She was fenfible of its exhilarating effects, and derived a moft remarkable degree of advantage from fo fmall a number of inhalations. Her cheeks and lips acquired the ruddy glow of health, the appetite was perfectly reftored, and indolence and laffitude were fucceeded by activity and fpirits. She had not experienced (her own expreffion) fo good a ftate of health for two or three years. The Menfes had not returned at the time fhe difcontinued the oxygene, but fhe has fince continued in perfect health.

R. EMERSON.

Swafham,
25th August, 1796.

CASE

CASE XVI.

Aug. 26, 1796. Bennet-street, St. James's.

SIR,

ELIZABETH BYWORTH, aged 17, was in ſervice at Mr. Long's, New-Wharf, White-Friars, when from catching cold, the natural female relief forſook her, and ſhe became ſubject to frequent hyſterics; her countenance was bilious; ſhe had qualmy ſickneſs in the morning; appetite irregular; dyſpnœa upon the ſlighteſt exerciſe, to which ſhe felt extremely diſinclined; and ſo great debility that ſhe was unable to maintain her place. To theſe ſymptoms ſucceeded fainting, three or four times a-day; a continued diſturbance in the inteſtinal canal; ſpongy gums; towards evening, chillineſs; but more frequently much external heat; no perſpiration; and an irregular exoneration of the bowels. Notwithſtanding the methods employed, this complaint remained above three years, during which time ſhe lived with her mother, No. 6, Water-lane, Fleet-ſtreet. In getting from thence to Bennet-ſtreet, ſhe was above an hour and a half, and was quite exhauſted with fatigue. She continued as a patient five weeks, during which time ſhe took two emetics, aloetic and ſteel pills, and ſhe inhaled daily thirty quarts of atmoſpheric air, ſuper-oxygenated with ſix quarts of vital air; at the end of leſs than four weeks ſhe was able to walk here without fatigue in half an hour; ſhe had no ſickneſs at the ſtomach in the morning; could go up an aſcent without ſtopping, and ſcarcely panting; the gums ceaſed to bleed; the appetite was conſtant; the lips were red; the pulſe bold and regular, inſtead of quick and thready; her natural perſpiration returned; and the complexion was ſo ameliorated, that the change

did not fail to be noticed by every one. She has ſince gone to live as ſervant in a family in Old-ſtreet, being now in *every reſpect* in perfect health, and adequate to the ſituation.

From, Sir, your's ſincerely,

Dr. Beddoes. R. J. THORNTON.

REMARKS

REMARKS

ON

THE FOREGOING CASES,

BY

THE EDITOR.

REMARKS.

THREE of the preceding Cafes came under my own obfervation. They were among the worft in their kind; and the event, as far as we can perceive at prefent, has been eminently fuccefsful. Mr. Hare and Mifs —— Green I faw every day for three or four weeks; and Mr. Baynton's female patient I vifited eight or nine times. In the two firft inftances the fits were very frequent and fevere; but they were in other refpects fuch as are commonly to be obferved in fpafmodic afthma. I do not therefore think it neceffary to enter into any difcuffion concerning the fymptoms. But there are a few facts which it would be unfair if I were to conceal from the reader. Mr. Hare began with one quart of oxygen air to above twenty of atmofpheric, twice a-day—he never exceeded three quarts of oxygen at one dofe. The morning after the fixth dofe he obferved fome ftreaks of blood on a fmall quantity of mucus, which he had expectorated. This was not attended, nor to the prefent day, (Sept. 23, 1796, on which I have feen Mr. H. in excellent health) has it been followed, by any fufpicious fymptom. From my idea of the ftimulating power of oxygen gas I felt fome alarm, and perfuaded my patient to defift from the ufe of the air for a day or two; and at this moment I believe that I fhould have advifed the entire difcontinuance of it. But Mr. H. who laid no ftrefs upon the occurrence, was little difpofed even to procraftination; and he expreffed a firm refolution to run fome rifk in order to procure an abatement of his haraffing complaint. He accordingly went on refpiring diluted oxygen till the

time

time ſpecified in his letter, ſince which he has not reſumed it. Like many other aſthmatics, he was particularly liable to catarrh; in conſequence of which he never failed to have a paroxyſm. Apprehending he had taken cold once or twice during the firſt fortnight, I ordered him four or five grains of antimonial powder at bed-time. Some London phyſician, in conſideration of his weakened habit, had ſuggeſted to him the propriety of taking tonic medicines. I did not ſcruple to order pills of equal parts of extract of gentian and ſulphate of iron (green vitriol), of which after leaving Clifton Mr. H. took ſix or eight grains a-day for ſome time. For this twelvemonth paſt he has not taken an atom of any opiate or any antiſpaſmodic medicine. The apparent improvement of this gentleman's conſtitution is, in my opinion, ſtill more remarkable than the diminiſhed frequency and force of his diſorder. Oxygen air has frequently enabled perſons to bear cold better; and I have met with no one who ſeems to have experienced this agreeable change to a greater degree than Mr. Hare.

When I was called to Miſs —— Green, I found her labouring under an attack of aſthma, which with ſome ſmall remiſſions, continued three days and nights. Her fits had been of late ſo ſevere as to give her friends the idea of immediate danger. Beſides oxygene air, ſhe has taken the *mineral solution* of Dr. Fowler, ipecacuanha in ſmall doſes, and likewiſe as Mr. Green informs me, five or ſix emetics ſince October, 1795; an emetic having been given when ſhe perceived a *huskiness* in her throat; I ſuppoſe leſt a fit of aſthma ſhould come on after a catarrh.

The

The circumſtances obſervable in the laſt of theſe three patients, were exceedingly remarkable: nor do I remember to have met with a caſe better fitted to ſerve as a *study* for the phyſician. I endeavoured, by obſervation, reflection and communication with the perſon, whom I thought beſt calculated to elucidate its difficulties, to aſcertain the order and connection of the phaenomena. They appear to me ſuſceptible of a tolerably compleat elucidation. And I may render an acceptable ſervice to thoſe who deſire to penetrate into the ſecrets of the animal œconomy, if I here introduce the ideas that occurred to myſelf on the firſt examination of the patient, as they were committed to paper and ſubmitted to the inſpection of two medical practitioners, the opinion of the eminent phyſician who was conſulted by letter, and the corrected judgment which the courſe of the diſorder and the operation of medicines, have led me to form.

The unceaſing neceſſity for cool freſh air, which obliged the patient to have the windows of her apartment open day and night for months, diſtinguiſhes this caſe from common inſtances of difficult breathing, whether belonging to the denomination, *asthma* or *dyspnœa*. In the fit, the long-continued ſuſpenſion of conſciouſneſs and voluntary power is a ſingular occurrence; and the extraordinary quantity of bloody mucus eliminated deſerves notice. This fluid was aſcertained by careful enquiry to be mucus, and not ſaliva, as I at firſt ſuſpected.

Holding theſe curious particulars in view, I concluded my letter to the phyſician, above alluded to, in theſe terms; " The firſt impreſſion made upon the ſpectators

L by

"by these attacks has been that they are mere asthmatic "paroxysms. But the *incessant* demand for the highest "stimulus which atmospheric air is capable of yielding, "proves that the lungs are habitually inirritable. This "is not the case in ordinary asthma. The paralytic "affection of certain muscles which succeeded that "seizure, in which respiration was totally suspended, "seems to imply a failure in the supply of vis vitæ to "the system in general, and the lungs in particular. "This cause I suppose would produce a general gross re- "semblance to an asthmatic paroxysm. The extraordi- "nary flow of mucus might be imputed to a retrogade "motion of the absorbents. The class of phaenomena, "which has been referred to this principle, is gene- "rally marked by deficient stimulation or deficient ex- "citability—that is—by deficient excitement. On these "grounds, which I need not further detail to you, does "not an hyper-oxygenated atmosphere promise to do "service? And might not friction and electricity be "applied to the thorax with propriety? with moderate "doses of opium at stated times, and also of steel? ex- "traction of bad teeth?"

The opinion of the consulted physician, as addressed to the Editor, was as follows:

"I have considered with care both the letter you have favoured me with, and that from Mr. Baynton, concerning the case of Mrs. —. As I understand that the paroxysms are always attended with difficult respiration, though not preceded by it; and as she frequently wishes for fresh or cool air; and lastly, (as mentioned in Mr. Baynton's letter) as she has very frequently miscarried;

I am

I am induced to believe these paroxysms to be asthmatic; and on that account should recommend the trial of oxygen gas diluted with atmospheric air. As there is reason from your original observation to believe, that pregnant ladies expend more oxygen in supplying it to the fœtus, than when they are not in that state; I have lately directed a lady, who has very frequently miscarried, to inhale oxygen, and so far I hear with good event.

Secondly, as she becomes quite insensible to external objects during the last part of the paroxysm, this seems similar to the stupor which generally terminates epileptic fits; and differs from syncope, in which, (according to Cullen) the motion of the heart is stopped or diminished.

My general idea of this disease is, therefore, that it is an asthma of the convulsive or epileptic kind. The good effect which she has generally received from an opiate, when given soon enough, seems to confirm this idea of the disease.

1. I should certainly advise, as you have suggested, an extraction of those teeth, which are so far decayed as to be useless to her.

2. The respiration of oxygen gas once or twice a-day.

3. Daily equitation, or friction, or other exercise; she should live in well ventilated rooms, both parlour and bed-chamber, and, if it can be done, go from home for change of air. Electricity also is worth trying.

4. In respect to medicine she should, if you approve, take half a grain of opium in a small pill twice a-day, as at breakfast and at going to bed. Which, if she again

 becomes

becomes pregnant, ſhould be increaſed to a grain twice a-day, and ſhould be perſiſted in for *many* months, ſo as to introduce a new habit of increaſed energy in the whole ſyſtem.

5. Her habits of life ſhould be regular, that is, ſhe ſhould go to bed by ten, and drink nothing ſtronger than wine diluted with thrice its quantity of water, or very weak ſmall-beer.

6. Some medicine, which evidently increaſes the pulmonary exhalation, ſhould be uſed, as a draught twice a-day, conſiſting of balſam of Canada or Peru a ſcruple, diſſolved in a drachm of honey and an ounce and half of water, and a drachm of tinct. cinnam.—or aſafœtida in pills or ſolution. onions? garlic?

7. If the returns of the paroxyſms can be foreſeen, an addition of opium, as 20 or 30 drops of the tincture, ſhould be given half an hour before the expected attack, and omitted at other parts of the day."

On a retroſpect of circumſtances one can, I think, ſcarce heſitate to pronounce the complaint *a defect of energy in the pulmonary capillaries and lymphatics.* At the time of the moſt formidable ſeizure, this was ſo conſiderable that the red particles of the blood found their way along with the mucus either through the exhalants or the abſorbents. The diſtreſs, occaſioned by the debility of theſe veſſels, when this debility was greater than common, might, indeed, eaſily excite ſpaſms in the muſcles of reſpiration: and, if ſo, the fit would be truly termed a fit of epileptic aſthma. But as aſphyxia will come on from a given inaction of the capillaries of the lungs, ariſing from an internal conſtitutional cauſe, with no leſs

certainty

certainty than from immerſion in an unreſpirable medium, there might in theſe fits have been nothing of ſpaſmodic contraction of the diaphragm or other co-operating muſcles. I could not aſcertain the exiſtence of ſtricture by enquiries from the patient. The violent fit of May 23d, 1796, came on immediately after a voluntary exertion, which for ſuch a patient muſt be deemed conſiderable. She roſe out of bed (probably in ſome haſte) to view a proceſſion paſſing along the ſtreet. And I apprehend an effort of this kind, in which body and mind were concerned, might have exhauſted ſo much of the power of life, as to occaſion the ſubſequent aſphyxia and paralytic feelings.—No attentive reader of Mr. Baynton's communication can be at a loſs for the cauſe of the weakneſs in the veſſels on the ſurface of the lungs. He ſpeaks of a catarrh and cough of many months' continuance as preceding the other complaint. Add to which, the patient has, in my opinion, a decidedly *inirritable* temperament.

During Mrs. ——'s continued uſe of the (ſo-called) *tonic* medicines ſhe felt ſome abatement of her complaint. She ſometimes breathed with unuſual eaſe, and once found herſelf ſo well as to undertake a walk of above two miles, an exertion to which for a long time before ſhe had been nothing like equal. But the amendment laſted only for a little while; nor, though in a high and open ſituation, was ſhe two whole days and nights without an anxious ſenſe of want of freſh and free air: The cold-bath alone produced the continued feeling and the aſſurance of reſtored health. The fits ſeemed to have a tendency to return with violence once a month; and two of theſe periods have now paſſed without a token of relapſe.

The

The effect of oxygen diluted in the dose of 2—6 quarts a day did not appear to me very striking: and this case seems to confirm the inference deducible from Mr. Kentish's observations on Capt. Hemsley; *that oxygene directly stimulates the blood-vessels only; and not the absorbents*. If a chamber filled with modified air had been at my command, the effect of air moderately hyper-oxygenated and respired long might have been well ascertained by this case; and so, if a proper establishment had existed, might the identity or difference in medicinal effect between oxygen from growing vegetables and from minerals.

The benefit to be expected from the cold-bath in similar cases is the great practical moral to be drawn from this history. Mrs. —— glowed much after its use; and it may be concluded that such energetic action of the capillaries of the skin, communicating itself by sympathy to those of the lungs, restored to them their healthy powers. Possibly the preceding liberal use of tonics was not indifferent to the degree of success which has been experienced in this instance. Since the publication of the work mentioned by Mr. Baynton, I have been attentive to the use of the cold-bath in undoubted spasmodic asthma; and as several of the worst possible cases of this disorder have come under my care, I am in possession of some important facts on this interesting subject. These facts are at this moment accumulating; and I shall present them to the world either in the Appendix to the present pamphlet, or in some future publication.

CASES

OF

CATARRH,

PULMONARY HÆMORRHAGE,

AND

CONSUMPTION.

CASES.

CASE XVII.——*Catarrh.*

I SHOULD not trouble you with the following fact respecting hydrogene gas in the inflammatory stage of catarrh, were it not supported by analogous cases in which sometimes unrespirable airs and sometimes æther-vapour have been employed.

Friday, Feb. 19, 1796, I felt indisposed with slight symptoms of Fever, accompanied with that particular sensation in the chest which I had been much accustomed to feel at the commencement of violent catarrh. In this situation I dined with a medical friend and imprudently drank more than a pint of wine. I passed a restless night, and in the morning all my symptoms were increased. The mucous membrane of the nose was greatly affected, and I began to cough frequently and painfully. I procured some hydrogen gas, two quarts of which diluted with twenty of common air, I inhaled twice in the forenoon. Not finding relief, I determined to use undiluted hydrogen, as often as I felt a disposition to cough. I fitted a perforated cork provided with a stopper to a bladder of at least three gallons capacity. Having expired forcibly, I put the cork to my mouth and drew in the hydrogen, and then expired it into the bladder: this I did whenever I felt a disposition to cough, from which I restrained myself as much as possible. The next morning I felt myself considerably relieved. I had recourse again to the hydrogen, sometimes breathing into the bladder, and at other times slowly through

the noſtrils, to relieve the diſagreeable ſenſation I experienced there. Monday I felt the diſpoſition to cough very trifling, and Tueſday I had not the ſlighteſt remains.

From what I have before experienced (and I have been extremely troubled with violent catarrhs) I am perſuaded that the benefit ariſing from the uſe of factitious air in twelve hours is greater than that which would be obtained in a week from the uſual mode of practice.

I have not (fortunately for myſelf) had an opportunity of again making trial of its efficacy, but it will certainly be the firſt remedy to which I ſhall have recourſe in a ſimilar ſituation.

I am, dear Sir, your's truly,

To Dr. Beddoes. THOMAS ROLPH.

CASE XVIII.

Pulmonary Abscess.

No. 435, *Oxford-street, Sept.* 1, 1796.

SIR,

I AM happy to find that the ideas you firſt ſuggeſted reſpecting the nature of conſumption are likely ſoon to meet with an ample inveſtigation by the eſtabliſhment of a Pneumatic Inſtitution. Patients were long ſince ſent from their families and home under the ſuppoſition that the air of other climates better ſuited their diſeaſe than our own, but what was the effect of air on the conſtitution ſcarcely ever entered into the conſideration of the practitioner, much leſs to turn it *here* to any account.—

The

The enclofed cafe will confer confiderable weight on the mode of treatment you fuggefted, and as Dr. Thornton will fend you the progrefs, I fhall only lay before you the ftate of my patient, previous to my recommending him to the care of that indefatigable and ingenious phyfician, and fhall add a few words refpecting his prefent condition of health.

Mr. Dorgan, married, having a family, aged 41, was with a party of friends at Deptford, Feb. 10, 1796, where he was induced rather to exceed in the quantity of liquor, and the evening turning out rainy, was wet through: the next day he was feized with fhiverings, fucceeded by flufhings of heat; head-ach; violent pain in the right fide; difficult breathing; drynefs of the noftrils; and other marks of an incipient peripneumony; the fymptoms were fo violent as to oblige him to take to his bed. I was immediately fent for, and from the urgency of the cafe, I thought it right to call in the aid of a phyfician, Dr. ——, who ordered him to be blooded, bliftered, as well as purfuing the other antiphlogiftic methods which are ufually practifed in this complaint. After fifteen days Mr. Dorgan was able to leave his bed; but the cough ftill continued with copious expectoration, which upon trial with water funk to the bottom.—We continued our attendance to the 24th of March, when from the rapid progrefs of the difeafe which had all the appearance of phthifis pulmonalis, we recommended the trial of the hydrogene, or hydrocarbonate, air. From his being a very corpulent man, he was fo far reduced, that his clothes fat like a fack on his body; naturally of a ftrong make, he was fo weakened, as to be obliged to ufe a ftick; conftantly haraffed with a hollow cough

which produced purulent expectoration to the quantity of a pint during the twenty-four hours, accompanied with hectic fever, drought, colliquative ſweats during the night and in the morning, loſs of hearing, his eyes dim and ſometimes for a few moments failed him; his appetite was gone, indeed every thing ſeemed to prognoſticate a ſpeedy iſſue. Under theſe inauſpicious circumſtances he began the trial of a reduced atmoſphere, and indeed we had not the ſmalleſt expectation of his recovery, the diſeaſe appearing ſo extenſive in his cheſt.

I am happy that our prognoſtics failed, and to add I have ſince ſeen Mr. Dorgan, and he is free from cough; has no night ſweats; has recovered his former bulk; and looks as fine and hearty a man as any we may meet with in a hundred.

I am, Sir, &c.

To Dr. Beddoes. WILLIAM DEAN.

Journal of this Case.

March 25. Mr. Dorgan, living in Church-ſtreet, Bloomſbury, ætat. 41, was attacked with Pneumonia, which terminated by a diſeaſed ſecretion, or abſceſs of the lungs, occaſioning chill in the day, hectic fever at night, and profuſe perſpirations, more eſpecially towards morning, great emaciation, and extreme debility; what he ſpit up ſunk in water, and upon examination with a ſtrong lens, it appeared filmy, and covered with ſmall air-bubbles, and was of a clear ſtraw colour. Feels uneaſineſs

eafinefs upon making a deep infpiration, complains of a dull pain at the fternum, a haraffing cough, dimnefs of fight, (perhaps from previous inflammation of that organ) thicknefs of hearing, (probably alfo arifing from the violent cold which was the foundation of the prefent difeafe) hoarfenefs, more efpecially towards night; has a tongue extremely white, edges rather florid, pulfe 110, rather full and tenfe, appetite gone, fpirits unufually depreffed, but poffeffes great fortitude of mind. Mr. D. has the appearance of being formerly a very ftout man, is near fix feet high, his eyes are weak and blue, his complexion fair, his hair light, and he was before often fubject to very fevere colds. Ordered a large blifter on the fternum, an aperient in divided dofes, and the fyrup of white poppies at night.

March 27. No alteration.

Ordered the aperient and fyrup to be repeated, and a fleecy hofiery waiftcoat to be procured as a fubftitute for the flannel. Inhaled a reduced atmofphere, viz. one quart of hydro-carbonate to forty of atmofpheric air, had continual catchings of his breath as he inhaled it, his pulfe which was 110, full, and ftrong, was rendered foft and feeble, and rather quickened. Felt fome uneafinefs at his breaft at the time, a little faintnefs, vertigo, and ficknefs, which prevented him from inhaling the quantity prepared.

March 29. Feels rather more debility, with acute fhooting pains in the fide.

Ordered another blifter, and an aperient. Inhaled a reduced atmofphere, the fame effect nearly as on the 27th.

March 31. Free from pain in the ſide, but no otherwiſe amended.

Ordered a Burgundy pitch plaſter on the ſternum of a large ſize, a tonic mixture of bark and myrrh, an emulſion of milk and oil of almonds made up with gum arab. and ſugar, and the anodyne ſyrup at night. Inhaled a reduced atmoſphere, the catchings were inconſiderable, it produced a ſoothing refreſhment, and a ſenſe of coldneſs at the time, which was ſucceeded by the mildeſt glow, and pulſe 90, ſoft and feeble, which increaſed to above a hundred ſoon after the inhalation.

April 1. Is much mended, ſlept throughout the night, and what is expectorated is leſs filmy, and ſinks with ſome difficulty.

Ordered the ſame medicines, but inſtead of the tonic mixture at night an aperient, and the tonic to be reſumed the next evening, and the following morning.

April 3. Amendment viſible.

Repeated the medicines as on the 31ſt of March. The reduced atmoſphere no longer produced nauſea or vertigo, but a ſoothing tranquillity, and a diminution of pulſe. No catchings of the breath, and the inſpirations were deeper and eaſy.

April 4, 5, 6, 7, 8. All the ſymptoms of diſeaſe are diminiſhed.

Purſued the ſame medicines as were ordered March 31.

April 9. The appetite is keen, feels his ſtrength conſiderably increaſed, ſo that inſtead of an hour and a half, he walked here in little better than thirty minutes, the

cough

cough is lefs troublefome, what he expectorates is chiefly in the morning and evening, nights good, no pain, entertains the hope of a fpeedy recovery.

April 10. Continues mending.

Ordered an aperient, as on April 1. Continues to inhale a reduced atmofphere.

April 12. Continues mending, before obliged to ufe a ftick, now had left it behind, having no occafion for one. Upon examining the expectoration the greater part fwam, and only after fome agitation did fome lumps fink in the water.

April 13. Left off a great coat, feels to-day a violent ftitch in the right fide, cough increafed, confiderable hoarfenefs, tongue very white, pulfe 90, full, eyes heavy, ftrength diminifhed, much irritatien at the breaft.

Ordered a blifter, and an aperient to be taken in divided dofes, the tonic mixture to be difcontinued, and an aperient to be repeated again the next morning. Inhaled a reduced atmofphere, which occafioned violent catchings of the breath, as at firft, and therefore it was perfifted in only for a few minutes.

April 15. Pain fubfided, cough much abated, no hoarfenefs, complexion much improved, pulfe 76, fays " he feels much better to-day than for a long while."

Ordered the tonic mixture to be refumed in increafed force, and directed porter at his meals, and a more generous diet. Inhaled the reduced atmofphere with advantage.

April 16, 17, 18, 19. Cough very moderate, the expectoration has ceafed to have any unpleafant tafte, and

ſwims for the moſt part on the ſurface of the water. It has a browner caſt, and appears bluiſh in the morning.

April 20, 21, 22, 23, 24. Continues mending, ſeldom coughs, appetite extremely good, ſpirits elated, thinks he will be well in a few days.

Ordered the opium to be left off, and leſs of the tonic mixture to be taken.

April 25, 26, 27, 28, 29. Daily mends, never coughs but in the morning, and towards evening, and what he expectorates floats, is increaſed in bulk; nor has he need of the opium.

Ordered the bark and hydro-carbonate to be left off for a week, and the patient to go into the country.

May 10. Mr. D. returned, perfectly recovered.

Sept. 1. Saw Mr. Dorgan, who has ſince continued in excellent health, and has no apprehenſion, or I truſt, danger of his former complaint, the diſorder being rather *adventitious*, than natural to his conſtitution.

CASE XIX.—*Consumption.*

Aug. 13, 1796. *Bennet-street, St. James's.*

ROBERT SCANTLEBURY, married, aged 35, living at No. 33, Crown-ſtreet, Finſbury-ſquare, has laboured under a diſeaſe of the cheſt nearly ſeven years. He imputes its origin to a violent cold, leaving behind a cough, which was very troubleſome during the Winter, and at firſt conſtantly diſappeared in the Summer months.

For

For the laſt two years he has experienced no intermiſſion. He ſpits up a great deal of a *something*, which, when put into a glaſs of water, appears white and flocculent, and ſoon ſubſides to the bottom, and when viewed by the microſcope ſhews the appearance of a thin web replete with air-bubbles. He had ſeldom above two or three hours ſleep, ſo troubleſome was his cough. He had feveriſh heat towards evening, which diminiſhed by ſweating in the morning; a parched white tongue, with florid edges and ſpots; chillineſs during the day; and a circumſcribed red ſpot on the cheek-bone. He often complained of a dull pain under the ſternum; hoarſeneſs towards evening; and ſo much debility, that he was above two hours in getting to my houſe in Bennet-ſtreet, repeatedly taking hold of the rails of houſes, as he went along. His appetite was good, and what ſeemed rather unuſual in his complaint, he had little or no expectation of recovery, which perhaps might ariſe from the continual good-nature of honeſt friends, who were conſtantly expreſſing their concern at his ſituation. He had taken a deal of medicine without benefit. The plan I purſued with him, was emetics and cathartics to make the bark agree; ſyrup of white poppies at night to aſſuage the cough; and he inhaled the hydro-carbonate in the proportion of one quart to forty of atmoſpheric: He was ordered a fleecy hoſiery waiſtcoat; and had a large Burgundy pitch plaſter on the breaſt. The reduced atmoſphere invariably produced a general ſenſe of coldneſs and refreſhment over the frame; and at firſt ſlight vertigo, and nauſea, which ſoon diſappeared, and ever after, he went away under the perſuaſion he was mended by the hydro-carbonate, and ſoon acquired the full confidence, that he ſhould ſpeedily recover; nor was this

 expectation

expectation fallacious; for his cough daily grew less incessant, his nights were seldom disturbed, he felt his strength so far increased, that he could walk here in half an hour; and what he spit up was bluish, or resembled clear mucus, which swam on the surface of the water. He ceased to have exacerbations of heat and cold, with perspiration in the morning, and his friends universally noticed the surprising alteration in his looks. After five weeks he took his leave, without cough; increased in flesh; and seemingly perfectly recovered of his former complaint

Sincerely your's,

To Dr. Beddoes. R. J. THORNTON.

CASE XX.—*Consumption.*

SIR,

AMY CHATFIELD became my patient on the 23d December, 1795, and continued so till Jan. 20, 1796. Her complaints were cough, pain, and great tightness at her breast, frequent and hard pulse, and very considerable spitting of blood. She was bled and blistered, and took sedative and gently opening medicines, which at first relieved her; she had less pain, and the hæmoptoe was considerably diminished. I attributed the relief she experienced more to the bleeding and blistering, than to the medicines she had taken, and was desirous of repeating them; but she was not to be prevailed on; I therefore discontinued my visits.

She

She is a woman of a fair pale complexion, with light hair approaching to red. Her lady, Mrs. Bourke, aſked my opinion of her; I told her that her ſituation was ſuch as to give very little hopes of recovery, and as ſhe was incapable of doing her buſineſs, recommended her being ſent to the country. From the above time till the 7th inſt. I had ſcarcely ſeen her; and indeed was *surpriſed* at the very great change that had taken place in her health. Her face, though naturally pale, appeared healthy; ſhe ſaid her appetite was good, that ſhe was capable of doing her buſineſs, and that ſhe was perfectly well.

Sept. 15, 1796. H. COATES.
Howland-street, Fitzroy-square.

Journal of Amy Chatfield's Case.

April 9. Amy Chatfield, æt. 25, lives as ſervant at Mrs. Bourke's, No. 50, Charlotte-ſtreet; for ſeveral months has had hæmoptoe, her expectoration is now ſtreaked with blood, ſinks when immerſed in water, cough hard and frequent, tongue florid at the edges, countenance pallid, except when attacked with fever, which comes on towards evening, perſpirations in the morning, emaciation, breathing oppreſſed, a tightneſs, like a rope, acroſs the breaſt, ſo much debility that ſhe was above an hour and a half in getting to my houſe in Bennet-ſtreet, leaning on the arm of a companion, and ſitting down upon the ſtone ſteps of houſes ſix or ſeven times in her way.

Ordered the ſyrup of white poppies, and an aperient draught.

April 12. Expectoration as before, ſleep very diſturbed, awakened with violent head-ach, and ſickneſs of the ſtomach.

Ordered an emetic and cathartic, and the opium to be omitted.

April 14. Brought off a quantity of viſcid mucus from the ſtomach, feels to-day lighter, and much mended. Expectoration as before.

Ordered a fleecy hoſiery waiſtcoat, a cathartic, and a mixture of bark, myrrh and ſteel, and the opiate to be reſumed.

April 16. Feels ſtronger, and only reſted once in getting here, complains of a tightneſs acroſs the breaſt, ſtitches in the ſide, much heat at night, giddineſs and head-ach, diſturbed ſleep, and cough very hard. Pain when making a deep inſpiration, and a catching of the breath.

Ordered the tonic to be omitted, and directed a tonic aperient of rhubarb quaſſia and coriander ſeeds to be taken at night, the bark mixture without ſteel to be reſumed the following day.

April 18. Is much mended. The expectoration is leſs ſtreaked, and appears now ſpotted with blood, and ſtudded over with air-bubbles. Sinks in water.

Ordered the tonic mixture to be repeated and the aperient each night.

April 21. Walked here without leaning on her companion, and only ſitting down once; ſlight ſtiches in the ſide:

expectoration as before. Repeat the medicines of yesterday.

April 22, 23, 24, 25. Continues mending; expectoration diminished, and rather less spotted with blood. Pains in the loins. Signs of menorrhœa. Omit. medicamenta.

April 26, 27, 28. Menorrhœa, pale, copious, during which time she was unusually well; but the expectoration was much streaked with blood, and less studded.

April 29. At nine in the evening was taken exceedingly ill; had violent head-achs, shiverings, flushes of heat, great pain in the loins, shortness of breathing, drought, no appetite; passed a bad night.

In getting here, May 1, was obliged to rest four or five times by the way, looked exceedingly ill; expectoration more streaked with blood, complains of some pain and rumbling in the bowels; ordered the tonic aperient, and the bark mixture after the bowels were cleansed.

May 3. Sat down thrice in walking here: the expectoration was less streaked and spotted with blood; and of a browner colour, and more disposed to swim.

Ordered the bark mixture to be repeated, and the opiate at night, with a tonic aperient pill of aloes, gentium, myrrh, and steel.

May 4. Strength much increased, countenance more healthy, expectoration browner, not streaked, and less studded with blood, sleep undisturbed, cough easy, appetite good.

May

May 5, 6, 7, 8. Mends daily: expectoration very little spotted with blood, of a dark brown, and swims.

May 9, 10, 11, 12, 13, 14. Continues mending; has increased in flesh; the medicines have produced a total alteration in her appearance, so that few would believe her to be the same person; seldom expectorates.

May 20. Has left off medicines, thinking herself quite well.

September 3. I learnt that Amy Chatfield has had no return of her disorder, and has continued with same family in excellent health.

During the time Amy Chatfield was under my care, she inhaled a quart of hydro-carbonate a day, diluted with 30 of atmospheric air, and felt at the time of inhalation a cool and soothing effect; and at first slight giddiness and nausea; but these soon went off. These effects however were not so conspicuous, as when she inhaled the vapour of æther, which was employed five or six times. This produced little or no nausea. It seemed to soften and enfeeble the pulse; but, after the process was over, it rose, and appeared soft and fuller. As the air was drawn over a large reservoir of cold water, did it not serve as a temporary cold bath, bracing the vessels of the lungs?

London, Sept. 17, 1796.

SIR,

I PLACED myself under Dr. Thornton's care last June, being subject to hæmoptoe, and bloody and purulent expectoration sinking in water. I had previously, without benefit, but rather with an aggravation of my complaint, tried the air of the country. I inhaled at Dr. Thornton's daily a quart of hydro-carbonate, mixed with thirty of common air. It produced at first considerable vertigo, and afterwerds much refreshment and a pleasing tranquillity. This was conjoined with the exhibition of bark and Columbo root, and I was evidently mending. When, at the commencement of August, the weather setting in extremely hot, I left off the reduced atmosphere, but continued the tonic mixture: and, being rather hurried in business, I was in consequence seized with considerable hæmoptoe. The subsequent attacks have, however, been trifling; having, by the direction of Dr. Thornton, at the instant immersed my hands and feet into water, which was surrounded by æther, and a solution of sal ammoniac in water; and then keeping them for some time in the air: after which I took aperients, and next tonics; and it is now three weeks, and I have had no returns whatever of hæmoptoe, nor is my expectoration streaked or spotted with blood. The fever at night, and perspiration in the morning, are, however, very oppressive; and having inhaled on the 6th current two teaspoonsful of æther from a tea-pot, I remarked, with another gentleman, that my pulse, which was about 98, sunk at the time from six to eight beats in the minute,

nute, and continued throughout the night considerably less full, but equally quick as before. The subsequent effects of æther have been always to soften and enfeeble the pulsations.

I am, Sir, &c.

To Dr. Beddoes. WILLIAM COCHRAN.

Note on this Case.

IN the case of Mr. Cochran, an apothecary, living in Broad-street, Golden-square, who had been for some months subject to hæmoptoe, which had terminated in purulent expectoration, streaked with blood, the benefit from the hydro-carbonate was not equally conspicuous: but here it ought to be observed, that anxious to do good, and advance himself in his profession, during the time he was under my care, he pursued his avocations, and attending a labour at night, with other exertions, probably brought on a serious return of hæmoptoe: but he still persists in his desire of the hydro-carbonate, convinced it had done him some service; and two physicians, Dr. Underwood and Dr. Shaw, his intimate friends, whom I called in, approving of it, it will be resumed. Mr. Cochran took no steel. The sequel of this case I propose giving at some future time.

I am,
Most truly your's,

R. I. THORNTON.

CASE XXI.

Birmingham, Aug. 15, 1796.

DEAR DOCTOR,

I SEND you the following cafe of Pulmonary Hæmorrhage, wherein the effects of a medicated atmofphere appear to me to have been decifive. The factitious air was prepared and given by James Watt, Efq. of Heathfield; with whofe intimate knowledge of this branch of medicine you are well acquainted.

Richard Newberry, aged 46, a labourer; of a tall and flender make, fanguine temperament, and who, previous to the attack which I fhall defcribe below, enjoyed good health, was, about the beginning of the month of May laft, in confequence of repeated intoxication* and expofure to cold, feized with hæmoptyfis. I faw him fome days thereafter; when he complained of pain in his fide, and cough, attended with copious expectoration of frothy mucus, for the moft part mixed with blood, which was dark and grumous, but at times of a florid colour. His pulfe was frequent, and had fome degree of hardnefs; his tongue was white, and he had confiderable thirft; his bowels were regular, and his appetite much diminifhed. For feveral evenings after the firft attack, Mr. Watt, whofe fervant he is, gave him a pint of hydrocarbonate, properly diluted; and which he uniformly inhaled, with the evident good effect of diminifhing the heat of his body, and of rendering his pulfe foon after both flower and fofter. By this treatment the pain in his

O

* Naturally of a fober turn.

his side, and cough were so much mitigated, as to suffer him to pass his nights in sleep; but, as the pain returned with increase in the morning, accompanied by more frequent cough, I directed that a blister should be applied to his side, and that every four hours he should take, in the form of a pill, a mixture of squill with a small proportion of ipecacuanha, and that the modified air should be continued. The pain of his side was much relieved by the blister, and did not afterwards return in the morning; but in the morning after its operation his pulse was much increased both in strength and frequency; and in that state continued until the evening; when, as formerly, in both respects it was much diminished by the repetition of the hydro-carbonate. The proportion of modified air was now increased to a quart every evening, and continued to occasion, during the inhalation, a grateful sense of warmth in the breast, and slight vertigo; and in the nights to produce sound and refreshing sleep. After this manner he proceeded; the expectoration becoming evidently purulent and offensive, but gradually less mixed with coagulated blood: when, about fourteen days from the date of the first hæmorrhage, having been employed in threshing out some corn, the hæmoptoe returned in considerable degree, preceded by the usual symptoms of flushed cheeks, sense of weight in the breast, with some degree of pain, accompanied by a hawking cough. Mr. Watt, judging by the former beneficial operation of the modified air, and finding his pulse upon this occasion very strong and quick, and his skin very hot, increased the proportion of hydro-carbonate to two quarts, with the most striking advantage; his skin soon thereafter becoming cooler, and his pulse much softer and slower. He passed a good night; but in the morning, when I saw

him,

him, he complained, as at firſt, of his ſide, coughed frequently, and expectorated blood in conſiderable quantity. As a bliſter formerly had removed his pain, I directed another to be applied to his ſide, which had a ſimilar good effect; and that he ſhould continue the uſe of the ſquill and ipecacuanha pill, but in an increaſed doſe. On the third day after the ſecond hæmoptoe, an eruption of the ereſypelatous kind ſpread itſelf over his right thigh and leg; which induced Mr. Watt to augment the quantity of factitious air to three pints, twice a day. The diſcharge of blood ſoon ceaſed, and the expectoration again aſſumed the purulent appearance and offenſive ſmell above deſcribed. In a few days the eruption diſappeared, and the ſecretion of the lungs looſing its fetor, was expectorated in uſual quantity and of its natural quality. He continued a few days ago in perfect health.

On the foregoing caſe I ſhall only obſerve, that Newberry himſelf uniformly expreſſed much thankfulneſs for the benefit he invariably received from breathing hydro-carbonate. Had the inhalation of the modified air been repeated more frequently, would it not alone have been adequate to the complete removal of the pain of his ſide, and conſequent cure? As the ſquill and ipecacuanha pills never produced any ſenſible alteration, much cannot be attributed to them in the ſucceſsful reſult.

I remain moſt ſincerely your's,

To Dr. Beddoes. JOHN CARMICHAEL.

CASE XXII.

Letter from Mr. CHAMBERLAIN, *Apothecary, to Dr.* THORNTON.

Aylesbury-street, Clerkenwell,
Sept. 25, 1796.

SIR,

I CANNOT hesitate in the least sending you the statement you require. I do not think it possible, that you could have a case of Phthisis pulmonalis more strongly marked, than that of my patient Wm. Roberts; of whose situation, prior to his happy application to you, the following is a just account. On the 14th of November, 1796, when he first applied to me, he complained of heat, pain, and oppression about the sternum; he had a hard and hollow cough, and the expectoration was salt, greenish, and usually tinged with blood. I gave him a gentle emetic, and treated him in the usual way with expectorants, lac ammoniacum, myrrh, and the different preparations of squills, with anodynes occasionally interposed; but, in spite of every effort on my part, he daily grew worse; till at length he became so bad, that his emaciated body, hollow jaws, hectic fever, night sweats most profuse, eyes sunk in his head, with total loss of strength, and excessive coldness of his feet and legs, eemed to indicate approaching dissolution; and, with so much apparent certainty, that I advised his wife to prepare for the worst; and even warned the patient to settle all his worldly affairs, as his danger was great. He in consequence left off medicine, and resigned himself wholly to an event, which I thought inevitable; when he fortunately heard of you, and of your surprising success

in

in a cafe*, which appeared nearly as bad as his own. He next day, in confequence, roufed himfelf fo far as to get to your houfe; but he fainted away upon his return home. His wife brought me the prefcription; when I candidly tell you, I faid, "It is to no purpofe, for neither Dr. Thornton with his airs, nor the whole college of phyficians, with Sir George Baker at their head, can fave your poor hufband." But he had not been a week under your judicious management, when the alteration produced was a matter of the greateft aftonifhment, both to myfelf and others. I need not contraft his prefent altered fituation, and the great benefit unequivocally derived from your practice; as you mention you propofe fending yourfelf an account to Dr. Beddoes. I have the honour to fign myfelf, therefore,

Sir,

With the fincereft refpect, &c.

WILLIAM CHAMBERLAIN.

* This was the cafe of Mary Kimber, recorded by Mr. Townfend in his Guide to Health, Vol. II. p. 274; who was recovered principally by means of the vital air, after her phyfician, Dr. Myers, had pronounced fhe would not live a fortnight. She has now remained above fix months in perfect health and fpirits; nor has fhe the fmalleft fign at prefent even of indifpofition. Knowing the forlorn ftate of the child, when I heard of the recovery, I went to the parents, that I might have ocular demonftration; and am happy to bear teftimony to fo extraordinary a fact. The cafe of this child was however very different from that of Roberts, as it was confirmed afcites.

Journal

Journal of Mr. ROBERTS's *Case.*

March 15. William Roberts, aged 34, married, caught a moſt violent cold in November, 1795, which ſettled in the breaſt; accompanied with acute pain on the right ſide, difficulty of breathing, expectoration ſtreaked with blood, a hard cough; for which he was bliſtered, and the uſual antiphlogiſtic remedies applied. It ſoon after terminated in phthiſis, viz. hot and parched ſkin in the evening, profuſe perſpiration in the morning, drought, chillineſs in the day, debility, emaciation, and purulent expectoration. He conſulted Dr. Wills, phyſician to the Finſbury Diſpenſary; who, after attending him for ſome time, declared to his wife, that no medicine could be of any ſervice, and that he was in a deep decline, and his only hope was his going into the country. He then conſulted Mr. Myers, who was of the ſame opinion; and, having next applied to Dr. Pitcairne, he alſo told him, medicine would render him no ſervice, and he muſt go into the country.

Ordered an emetic, and tonic cathartic of rhubarb and vitriolated kali; and, after their operation, a tonic mixture of bark, compound tincture of the ſame, and myrrh.

March 17. Cough hard and troubleſome.

Ordered another aperient.

March 19. Cough more urgent.

Ordered an emulſion of oil of almonds, milk of almonds, ſugar and gum arabic; ſyrup of poppies at night; and the tonic mixture to be reſumed.

March

March 20. Strength increaſed; the night's ſleep leſs diſturbed; cough leſs urgent, coſtive.

Ordered a tonic aperient pill of aloes, myrrh, vitriolated iron, and extract of gentian. The other medicines to be taken as before: a Burgundy pitch plaſter to be applied to the ſternum.

March 21 to 25. The tonic pills and opiate were ordered to be omitted.

March 26. Cough urgent.

Ordered the opiate to be reſumed.

March 27 — 30. Cough leſs troubleſome; ſtrength increaſed.

Ordered the ſame medicines to be continued.

April 1. Strength conſiderably increaſed: ſaid, he "walked ten miles in three hours," and has returned on foot from Woolwich, and felt no fatigue.

April 2. Expectoration diminiſhed, perſpiration leſs profuſe, appetite keen.

Ordered the ſame medicines to be continued.

April 3—14. Amendment great. Expectoration not ſtreaked with blood, but ſtill ſinks in water.

April 18. Walked from Woolwich this morning, and ſaid he felt neither fatigue in going there or returning.

Ordered vitriolated iron and extract of bark, to be taken with the tonic mixture. The opiate and emulſion to be omitted.

April 25. Night ſweats wholly gone, only a ſlight cough in the morning; what he expectorates, when immerſed

merſed in water, ſwims; except ſome ſmall pieces, which detach themſelves upon agitation; nights good, ſpirits alert; for ſeveral months had been obliged to leave off his trade; now follows it with ſatisfaction to himſelf; ſays, he "ails nothing now but a ſlight cough."

Ordered the tonic medicines gradually to be left off.

April 30. Appears light and active, has acquired fleſh, ſpirits great, appetite good, coughs but ſeldom, has however hecking occaſionally.

Ordered the medicines wholly to be left off, and now and then a little gum Arabic to be put into the mouth.

Sept. 29. Saw Wm. Roberts; he has the appearance of health, and ſays he has enjoyed good health ſince his recovery. Adviſed him to ward againſt the autumn by a fleecy hoſiery waiſtcoat.

Obſervation. From the copious expectoration of this patient, I conceived he had a catarrhal defluxion from the lungs, local irritation, and general debility. To take off the local irritation he inhaled a reduced atmoſphere, formed of the hydro-carbonate a quart, to fifty of atmoſpheric air; and he had a Burgundy pith plaſter applied to the ſternum; and when inflammation was indicated, an aperient. The abſorbents were excited to action, firſt by an emetic, and probably by the hydro-carbonate and tonic medicines; which laſt tended alſo to counteract morbid debility and irritability. Theſe ideas however I only mention as ſurmiſes, referring the juſter explanation of cauſes to you who firſt ſuggeſted the means.

To Dr. Beddoes.

CASE XXIII.

Note respecting W. DENCH, *by Mr.* KNIGHT.

SIR,

THE bearer, who is in Mr. Benſley's employment, has been tormented by a violent cough for the laſt eighteen months. He has been under ſeveral medical men, but has derived no material relief; therefore I have taken the liberty to recommend his caſe to your conſideration, being perſuaded that you will be abundantly gratified if you can reſtore him to health.

I am, Sir,

Your's, &c.

To Dr. Thornton. J. KNIGHT.

Journal of Mr. DENCH'S *Caſe, by Dr.* THORNTON.

May 10. William Dench, printer, married, aged 36, has been, for ſome months, ſubject to a violent cough; perſpirations in the morning, emaciation, debility, a dull pain at the breaſt, purulent expectoration, flocculent, and ſinking in water; which experiment was tried in his preſence; voice hoarſe, breathing oppreſſed, tongue clean, appetite moderate.

Ordered an emetic of ipecacuanha, and a cathartic of rhubarb and vitriolated kali.

May 12. Symptoms the ſame; feels rather weaker.

Ordered the cathartic to be repeated.

May 14. Leſs pain under the ſternum: rather weaker.

Ordered a tonic mixture of decoction of bark, compound tincture of the ſame, myrrh, and columbo; ſyrup of white poppies at night and in the morning.

May 15. Slight ſtitches in the ſide, ſickneſs at the ſtomach and head-ache.

Ordered a Burgundy pitch plaſter, and an emetic at night. The opiate to be reſumed the night after.

May 16 to April 8. Continued the opiate night and morning, and the tonic mixture in the day, with tonic aperients *pro re nata.*

April 9. Cough free, breathing eaſy; no profuſe perſpiration at night; upon going up ſtairs formerly obliged to reſt ten minutes before he could poſſibly proceed to work; now, to uſe his own expreſſion, he "has at it immediately;" appetite good, ſleep undiſturbed.

Ordered the ſyrup to be omitted.

April 16. Seldom expectorates, and what is coughed up appears to be chiefly mucus.

Ordered the tonic mixture gradually to be left off.

April 18. Came to me to return thanks, being, as he thought, *cured.*

Sept. 20. Has experienced no relapſe; looks well, and ſays "he feels very hearty;" he is ſubject, however, to catarrhs.

Obſervations

Observations on this Case.

Mr. Dench frequently inhaled, once a day, a reduced atmoſphere, and felt vertigo at firſt. The quantity was a quart of hydro-carbonate to thirty of atmoſpheric air. Upon diſſection I have often found ſigns of a *morbid secretion*, and no ulceration: and, where the expecto-ration is *copious*, may we not reaſonably ſuſpect this rather to be the caſe, than that what is coughed up is formed from an ulcer? Are not tonics indicated in diſeaſed ſecretions? and may not the hydro-carbonate give tone to the abſorbents? Is not the leucophlegmatic conſumption a diſeaſe of the abſorbents, often pre-viouſly manifeſted by tumid glands, though theſe in an advanced period are rarely to be found?

CASE XXIV.

SIR,

I HAVE ſent you the encloſed, as drawn up by the Gentleman who was conſtantly with the patient. Hav-ing frequently ſeen this lady previous to the time I ordered the hydro-carbonate, I had but little doubt, but that the pain in the breaſt, hoarſeneſs, &c. were the pre-curſors of tubercles; for her habit is remarkably ſcro-phulous; and, as a variety of means had been tried, I really conſidered the air as a forlorn hope. She has no doubt

doubt of its efficacy, and has continued to enjoy a perfect ſtate of health till this time.

Your's, &c.

To Dr. Beddoes. J. ALDERSON.

Sept. 26, 1796.

P. S. Mrs. B. always found the air to have no intoxicating effect if not taken immediately ;* and that without that effect it procured no ſleep.

* After being made, I ſuppoſe.——*Editor.*

Journal of Mrs. B———'*s Caſe.*

Mrs. B. about 34 years of age, ſcrophulous habit, ſubject to eruptions in the face; early in the ſpring of 1795, in the evening, complained of a ſlight pain in her throat, and ſome difficulty in ſwallowing ; which increaſed ſo much before the morning, that it was with great difficulty ſhe could ſwallow a table ſpoonful of liquid ; great pain in the throat and breaſt, a very hoarſe voice ; ſpoke very low, and great pain in ſpeaking ; a hot dry ſkin, pulſe 100, great thirſt.

Neutral mixtures, with ſpermaceti and opium, with bliſters to the back and breaſt, brought on a plentiful ſweat, and relieved the affections of the breaſt and fever in the courſe of a few days.

The ſweating continuing reduced her ſo much, that it was thought adviſable to give the bark to check it ; the ſaline julep, with laudanum, was occaſionally given, to relieve

relieve the irritation of the breaſt, and to procure ſleep. She continued gradually to recover for about ten days. The pain in her breaſt and ſide returned, which was removed again by the ſweating being produced, which left her in a more reduced ſtate than before. The Anguſtura bark checked the ſweating: but within fourteen days the whole train of unfavourable ſymptoms again returned, with troubleſome aching pain in the extremities; and was again removed by ſweating. In a little time was able to go down ſtairs, and in fine weather to ride out in an open chaiſe; but ſeldom more than a mile at a time, which ſeemed to be attended with advantage. Yet, nearly about the ſame diſtance of time, i. e. about fourteen days, ſhe was attacked with all the unfavourable ſymptoms before mentioned. The Anguſtura bark was then changed for a decoction of the yellow bark, two ſpoonsful twice a day, and the following.

1ſt night. Pain in the breaſt, and ſide, and back; ſweat much in the night; in the day very languid, with frequent giddineſs in the head; often faint and ſick; took very little nouriſhment; pulſe 70; very weak; had but little ſleep for three nights.

Took, at going to bed, one quart of hydro-carbonate air, with reſting three times; complains of a ſlight giddineſs in her head.

2d. Had a better night; was faint and ſick; in the morning was able to ride about two miles in an open chaiſe; was better of her ſickneſs, the pain in her breaſt and ſide eaſier; had not ſweat ſo much the night before; pulſe regular; took one quart of the hydro-carbonate air, with reſting twice, and did not complain of any affection of the head.

3d. Slept tolerably well in the night, without any ſweating; was rather faint when ſhe awoke in the morning, with a ſlight giddineſs of her head; rode out about three miles; the affection of her head better, the pain in her ſide worſe; appetite better for her dinner; in the evening the pain in her ſide was better, and had been free from pain in her breaſt all the day; took in the evening three half-pints of hydro-carbonate air at three times, which affected her head very much; was not able to take more; the pulſe was about 100, and did not ſeem to be altered from the affection of the head by the air.

4th. Slept better; the pain in the ſide continued, the pain at her breaſt better; did not ſweat in the night, appetite better; pulſe 80; complained of heat in her hands and feet frequently, with giddineſs in her head for the courſe of the day; rode out about four miles; the affection of her head better; took three pints of the hydro-carbonate, which affected her head a little; took it at three times.

5th. Slept tolerably well; no ſweating; the pain in her breaſt and ſide better; pulſe 100; frequent fluſhings of heat in her hands and feet, and a little giddineſs in the head; rode out, and the affection of the head was better; took three pints of the air at three times.

6th. Reſted well; the pain in her breaſt and ſide better; ſweating entirely gone off; appetite better.

7th. In every reſpect from this time continued gradually recovering, and had not any return of the complaints; continued the uſe of the air for two months, and is at preſent better than for twelve months paſt.

20 *Sept.* 1796.

CASE XXV.

Accidental Cure of Consumption.

SIR,

I TAKE the liberty to inclofe you a newfpaper, containing an account of the nitric acid* on the human body; for, to whom can I addrefs myfelf fo properly on fuch a fubject?

I am the author of this account, and I believe it is nearly a reprefentation of the truth. It may tend, I think, a little to advance our knowledge of the nature of fome difeafes; and may perhaps lead to the introduction of a powerful agent for their cure. You may make any ufe of my name that you think is right in this matter: my name, I fear, is too little known to give it much authority. Another paper will foon appear on the fame fubject, in which I mean to take notice of fome other effects of the nitric acid; 2dly, to defcribe fome attempts that I have made to get a fubftitute for it; and laftly, my method of procuring the acid beft fitted for internal ufe. This acid I procure by mixing three parts of uncalcined alum, with one part of nitre, and diftilling by the ufual method.

I have lately met with a cafe that is a confirmation of your opinion regarding the phthifis pulmonalis, and its method of cure. A lieutenant in the Bombay marine was lately, at Bengal, fo ill of a complaint which every body believed to be a confumption, that for a long time he

was

* See the Appendix.

was incapable of doing his duty, and given over as incurable. In this hopeleſs ſituation it became neceſſary to him to proceed to Bombay. During the paſſage the bilge water of the ſhip got at ſome ſugar with which ſhe was laden; which, from its decompoſition, was ſuppoſed to have injured very much the purity of the air. Below decks the air certainly became very impure; which at firſt induced this gentleman to remain above: but he one day, on going down below, obſerved that his reſpiration went on much more eaſily than on deck. He ſoon fell into a ſound ſleep in this new ſituation; and from that time he remained below in this atmoſphere, from which he continued to feel relief. His health afterwards daily improved; and he is at this moment in good health, and doing his duty at ſea.

I remain, Sir, &c.

W. SCOTT.

Bombay, May 4, 1796.

REMARKS

Remarks on the effect of a dose of Hydrocarbonate Air, by Mr. GREENWOOD.

WEDNESDAY, the 5th of October, at three o'clock, inhaled four quarts of diluted hydro-carbonate air; about ten minutes afterwards, not having moved from the chair where I received it, I felt a numbneſs in my forehead, and a ſenſe of weight or heavineſs in the eye-lids. This was ſucceeded by a dizzineſs, accompanied with an uncommon faintneſs, as if the ſtomach and belly were an entire vacuum.

There happened to be within my reach a ſmall quantity of ſpiced wine. Of this I drank twice after the faintneſs came on. It cauſed a temporary relief. I then twice attempted to reach a ſopha, leſs than two yards diſtant; but, on riſing from the chair, found myſelf in danger of falling on the floor from extreme giddineſs. On this, I fixed myſelf as firm as poſſible in the chair; ſitting ſideways, with one leg to the front; and my forehead reſted in the bend of my arm on the back of the chair. In this ſituation I loſt all ſenſation; how long I cannot tell. During the ſtate of inſenſibility there was an involuntary diſcharge of urine. On recovery, felt great languor: therefore remained a few minutes in the chair. My ſiſters at that time came into the room, and, as they afterwards informed me, were alarmed at ſeeing my face quite pale, and lips blue. They haſtened to me, and caught me; for at that inſtant I fainted. The remaining part of the day I was languid and weak: the

 night

night full as good as ufual: the expectoration lefs copious. Next day, what difference there was, was for the better; and nothing difagreeable afterwards followed.

I muft remark, that on Wednefday, the 21ft of September, I had begun to take four quarts of hydro-carbonate air, equally diluted, three times a day; and that on Monday and Tuefday, (the 29th and 30th) I took five quarts twice a day. Prior to that, I had been taking from two pints gradually up to five quarts, without much *sensible* effect. After this alarm, it was enquired, whether the air was recent or not. The man who adminiftered it, was pofitive it was air of feveral days ftanding; but, as he had brought an airholder of frefh hydro-carbonate, with intention to take away another that was full, what I took might have been new made. An attempt was not made to afcertain the fact till my phyfician came; and then, on account of the change of the airholders, no fact appeared, either to confirm the affertion of the man, or otherwife.

Oct. 13, 1796. JOHN GREENWOOD.

REMARKS

ON THE

PRECEDING CASES,

BY

THE EDITOR.

REMARKS.

AMONG the preceding cases, that of Newbury (Case XXI) deserves to be distinguished. Mr. Watt, who exhibited the hydro-carbonate,* Dr. Carmichael, and Mr. Barr (as I learned from their conversation) were much struck by its effect in lowering the pulse, and mitigating the very alarming symptoms that attended the discharge of blood. I applied to Dr. Carmichael for more minute particulars respecting the pulse. His answer was as follows; " I find it impossible to make you any satisfactory return to your enquiry respecting Newbury's pulse, further than, that the first time he inhaled the diluted hydro-carbonate, it was rendered slower by ten pulsations in a minute. I give you this on the authority

* Mr. Watt informed me, that this gas was prepared from one part in bulk of cast-iron borings, and three of charcoal. It was so strong, that, when fresh made, N. could not bear above a quart at a dose.—Mr. Watt's queries on this case were, 1st. Could the iron do any thing? 2. Does not the case furnish a hint, that copious eruptions upon the legs would be of use? 3. And might they not be produced by frictions with flour of mustard, cowhage, &c.? The editor had this year a consumptive patient, on whose body a copious progeny of boils broke out in long-continued successions, but without any change in the symptoms.

Mr. Watt, in a letter, dated Aug. 17, 1796, informed me, that Mr. Barr counted Newbury's pulse in the first fever fit, and made it 100; and that it fell to 90 " *during the time he was taking the first pint of hydro-carbonate*. The second, or threshing fever, I could not count it; but suppose it to have been at least 120, and strong! In about three days it was got nearly natural, and the eruption appeared. In the interim, he had three pints of hydro-carbonate twice a day."

thority of Mr. Barr, who happened to be preſent at the firſt trial. I never ſaw him ſooner than twelve or fifteen hours after the inhalation, otherwiſe ſhould have particularly ſpecified the quantity and quality of the pulſations."

In caſes like this I ſhould adviſe hydro-carbonate air with conſiderable expectation of advantage. But we ſhall not ſoon have a ſufficient number of facts to determine its virtues; as conſiderable hæmorrhage from the lungs, with ſtrong pulſe, is a diſeaſe rather unfrequent: and it is ſtill more uncommon for a phyſician to be called in, till ulceration of the lungs, the formation of new veſſels, or the power of habit, has altered the nature of the complaint.

In the caſe of the late Mr. Gray, editor of the Morning Chronicle, whoſe fortitude under his ſufferings I had an opportunity of admiring during the laſt week of his his life, I made a ſingular obſervation. After various other complaints, he had been for ſeveral weeks ſubject to occaſional pulmonary hæmorrhage, and to almoſt conſtant hæmoptoe. One morning I was haſtily called to him, and arrived before he had diſcharged from his mouth the laſt of about a pound of blood. On taking the baſon from his hand, I ſaw that the coagulated maſſes, which were numerous, had taken a ramified or digitated form. The branches were of various diameters, from a crow-quill to a hair. On waſhing, I perceived that the coagulated lymph had encloſed numerous air-bubbles, and ſome red particles. The appearance of air-bubbles was perfectly diſtinct. Dr. Craufurd,

furd, of Briftol Hotwells, to whom I fhewed the coagula, perceived them perfectly. The air-bubbles, and the finenefs of fome of the fibres, prove that the blood coagulated almoft inftantaneoufly after its effufion into the air-cells. I do not fee that the fact fuggefts any ufeful conclufion. But the propriety of recording unufual phænomena, when they can be completely afcertained, is acknowledged.

On the foregoing cafes of confumption, in which hydro-carbonate was ufed along with powerful drugs, it is obvious to remark, that the drugs would not of themfelves have produced the effect. Should the favourable event, as it reafonably may, occafion fcruples refpecting the real nature of the complaint, it is to be obferved, that, in general, the account of the fymptoms is very precife, and the expreffions very pointed. A perfectly impartial practitioner, for inftance, fays, that he does not think it "poffible phthifis pulmonalis could be more "ftrongly marked than in W. Roberts."

From fuch reports, I infer only, that it may be proper *cautioufly* to adminifter hydro-carbonate, or other factitious unrefpirable air in confumption, two, three, or four times a day, till either fome remedy of a different nature be difcovered, or fome better method of employing thefe fubftances be rendered practicable. I procured Mr. Greenwood's obfervation on himfelf to enforce caution. The relaxation of the *sphincter vesicae*, and the univerfal refolution of the mufcles, feem to confirm what has been fuggefted concerning the probable utility of hydro-carbonate in ftrangulated hermia. It ought alfo to be tried in tetanus. If advantage be taken of thefe

these accidents, I doubt not but the trouble of the present investigation will be compensated by collateral benefits, though the original purpose should not be attained. The only other example of a disagreeable effect produced upon a patient of my own, that has ever occurred to me from this class of airs, is the following. A person, far advanced in consumption, had his hydro-carbonate increased from one pint to two quarts. He took two quarts in the morning in bed without any unpleasant feelings. He took two quarts in the evening, also in bed; and, after sleeping about twenty minutes, awaked with a violent head-ache, succeeded by some delirium. His hectic fever ran higher than usual in the night: it was aggravated, I suppose, by the head-ache, which was doubtless owing to the hydro-carbonate. Next day, he was very little worse than usual, and afterwards better. The air was the same morning and evening.

I have occasionally seen good sleep from very moderate doses of hydro-carbonate. Miss S. daughter of Dr. S. constitutionally very feeble, and in the last stage of consumption, after taking a quart of hydro-carbonate, could sleep sixteen hours out of the twenty-four without medicine. She felt no head-ache or other inconvenience. This effect continued, with some abatement, for a week; when she went from the Hotwells. I have lately received an account of the similar operation of an over dose of hydro-carbonate. "A woman, aged —, had been afflicted with a cancerous ulcer for more than ten years, the pain of which deprived her of sleep almost compleatly; at least her sleep was neither sound nor refreshing. She was treated with oxygene, which had some

good

good effects. *I believe*, hydro-carbonate was alſo tried, of which, accidentally, ſhe got one day a large doſe, which brought on ſyncope and deliquium, which laſted a conſiderable time. When ſhe recovered, ſhe was put to bed, and ſlept ſound many hours. Next day ſhe ſaid ſhe had been in paradiſe, and that all the ſleep ſhe had had for ten years put together, did not amount to ſo much as ſhe had had this laſt night, and the pain of the cancer continued eaſier throughout that day. The event of the caſe I have not been informed of, but believe there was no cure."

Continued reflection, and information from various quarters, lead me ſtill to expect, that we ſhall arrive at a method of treating conſumption ſucceſsfully. All the great attempts, in which human genius has ſucceeded, were taxed beforehand as preſumptuous follies. *Le vulgaire de chaque siecle cite avec emphase le* PASSE *contre* L'AVENIR : *celui qui succede le voit dementi par l'evenement ; mais en insultant a son erreur il l'imite, et deplaçant seulement ses negations, il n'en poursuit pas moins infatigablement ses proscriptions prophetiques.*

If, on the one hand, we need not be thrown into deſpair by the *anticipations* of prophets, not critically verſed in the preſent and the paſt ; we may, on the other, diſcover grounds for hope, without placing any reliance on ſpeculation ; for, in conſequence of being placed in uncommon ſituations, ſome conſumptive patients appear clearly to have recovered. Mr. Scott's communication is an example of this kind. — In many countries *cow's breath* is a traditionary remedy ; and patients may occaſionally have been indebted to it

for a respite from their fate. Dr. R. Pearson, of Birmingham, produced from Dr. Bergius one instance, in which a lady, in the last stage of consumption, had her distressing symptoms all removed, from living the winter in a room with four cows. In September she had cough, expectoration, complete hectic fever, and swelled feet. She experienced gradual amendment. By Christmas her pulse had become natural. In summer she gained flesh; the catamenia returned; she had only a slight cough, and breathed quickly when she walked, The next winter she refused to pass her nights with cows. In spring she caught cold, and was again phthisical; in autumn she persisted in refusing to return to her first plan, and died at the end of winter. Far advanced consumption, in ordinary circumstances, never observes such a course; nor is there any known medicine capable of removing hectic fever, cough, and expectoration, accompanied with œdema and diarrhoea for a week, much less for two winters and a summer. Lately, while I was preparing to repeat this interesting experiment, I obtained the following communications.

Clifton, Oct. 17, 1796.

Dear Sir,

UPON your mentioning to me that you were about to try the effect of the breath of cows in consumption, it occurred to me that I could procure you the case of a French Lady, with whom I have the honour to be well acquainted, which proves that the experiment has been successful. She consents to its being made public; and gives

gives you leave to refer any perſons to her, who may be really intereſted in procuring further information on the ſubject.

I am, dear Sir,

Your's very ſincerely,

J. HARE.

To Dr. Beddoes.

APRES une fauſſe couche de trois mois, pendant laquelle je me ſuis fort peu ſoignée, et dont il m'etoit reſtée une perte de ſang conſiderable pendant pluſieurs ſemaines ; j'ai tombé *en conſomption*. Cela a commencé par une petite toux ſêche avec une fievre legère, et que je negligeois ; continuant toujours de ſortir : de me coucher tard ; *et en tout* de vivre d'une maniere trop active et trop agitée pour la ſituation de ma ſanté : qui de jour en jour devenoit trop mauvaiſe. Enfin je crachois le ſang mélé de matiere purulente ; mes jambes s'enfloient, et mes *epoques* etoient quaſi tout-a-fait diſparues, et le peu qui en paroiſſent étoit de la plus mauvaiſe *espéce*. Je ne dormois plus, et étant auſſi mal qu'on peut l'étre, alors pluſieurs conſultations des premiers medecins de Paris avoient lieu ; et il en reſultoit qu'ils regardoient le mal comme trop avancé pour pouvoir eſperer me guérir. Ils ordonnoient le lait d'aneſſe et l'exerciſe a cheval, ce qu'alors je n'étois plus aſſés forte pour entreprendre. J'avois 19 ans, et je ſentois ma fin arriver avec beaucoup de chagrin. Dans le tems que je me pleurois, je reçevois la viſite d'un ami à moi M. le Marquis de Voyez d'Argençon, homme de beaucoup d'eſprit : qui tout en s'affligeant avec moi, me dit, prenés mon conſeil ; puiſque toute la faculté vous abandonne,

abandonne, laissés moi vous amener un homme, qu'on traite ici de charlatan, parcequ'il n'est pas connu ; mais qui dans mon opinion est un homme de mérite. Il me l'amena. Je crachois le sang par lambeaux, et j'avois une fievre si forte et une douleur si profonde, que je lui tendois les bras, en lui disant : Ah ! s'il en est encore tems, *sauves moi*. Il me promettoit de faire tout ce qu'il dependroit de lui : mais je l'entendois dire *tout bas* qu'il etoit bien tard, ce qui ne diminua pas ma fievre. Il me fit jurer de faire tout ce qu'il voudroit, quelques souffrances que je dusse éprouver. Je l'assurai d'une parfait obeissance, et je lui ai tenu parole. Il me mit malgré ma fievre dans un bain tied, tout prés de mon lit. J'y restai trois quarts d'heure ; ce qui me calma beaucoup : on me remit dans mon lit beaucoup plus tranquille, et j'eus quelques heures de sommeil, qui me persuaderent que j'étois deja beaucoup mieux. Le lendemain matin il m'appliqua sur la poitrine un vesicatoire de six pouces de long par quatre de large, qui me fit beaucoup souffrir et eut fort peu d'effet. Mon excessive maigreur le rendant beaucoup plus douloureux, il le changeat et le plaçat entre mes deux epaules on je l'ai eu 4 mois. Ne trouvant pas qu'il en eut l'effet desiré, il m'ordonnat l'habitation d'une etable avec *trois vaches* ; ce qui fut executé en moins de 24 heures dans une remise à voiture appartenante à ma maison. On perça une fenetre et on y construisit un attelier pour 3 vaches. Une ballustrade en bois à hauteur d'appui etoit tout ce qui me separoit des vaches : mon lit etoit placè sur un plancher a un pied de terre pour laisser couler dessous les immondices. Il etoit de planches qui joignoient fort mal afin que la vapeur fut plus forte : et elle l'etoit *a tel point* qui tout ce qu'on portoit de blanc devenoit rougeatre

atre dans fort peu de tems. Mon logement dans la longueur de la remiſe etoit ſeparé en deux piéces ; celle que j'habitois *aſſes grande*, dans laquelle etoit *un lit* ſans rideaux, entouré d'une couſiniere *de gaze*, comme celles dont on ſe ſert en Italie pour le meme effet, qui eſt de ſe preſerver des mouches, qui ſont toujours nombreuſes dans les etables et inſupportables ſurtout quand on ſouffre. Une table de bois ; deux chaiſes de paille ſans couſſins, les ſimples murailles ; voila quelle étoit ma chambre. Elle etoit precedée d'une petite pour la femme qui ſoignoit mes vaches. Mon chirurgien et ma femme de chambre logeoient au deſſus de mes remiſes. Il y avoient dans mon lit deux ſonnettes differentes pour les avoir à volonté. Là j'ai reſte *neuf mois ſans relache*, à l'exception de quelques promenades dans ma voiture entourée d'oreillers, et les chevaux n'allant qu'au pas ſur le pavé a cauſe des ſecouſſes que me faiſoient ſouffrir le mar yre. J'oubliois de dire que mes veſicatoires, n'ont jamais rendu de *matiere* que dans *l'etable*, mais qu'il falloit pour les entretenir et les conſerver, les ranimer tous les deux ou trois jours dans le commencement. Ce qui m'affoibliſſoit beaucoup, mais l'eſpoir de guerir rélévoit mon courage, deja je crachois moins de ſang, enſuite les crachats n'étoient que *teints*, après la matiere devenoit tous les jours moins epaiſſe. Les jambes ont ceſſé de s'enflér apres 8 jours d'etable. *Le premier mois* a paru regulierement mais en petite quantité, le ſecond un peu plus *abondant*, et de mieux en mieux *tous les autres*. Des l'inſtant que je ſuis entrée dans mon etable, j'ai quitté tout eſpece d'aliment autre que du lait. Celui d'aneſſe à 5 heures du matin ; qu'auparavant j'etois obligé de couper avec de l'eau de Seltz pour le faire paſſer ; et qui dans l'etable paſſoit ſans aucune *aide*.

On

On m'apportoit à respirer, *matin et soin*, la jarre de lait frais qu'on venoit de tirer des vaches. Toute la journee *j'en buvois*, et le soir je prenois ordinairement du ris au lait bien crème et bien cuit; *rien autre chose*. Je n'ai jamais gouté meme *le pain* pendant neuf mois, j'avois le bonheur de ne rien desirer. On venoit me voir comme objet de curiosité, et on me trouvoit si changé, qu'on croioit que c'étoit fait de moi. Madame la Duchesse d'Orleans est venu me voir, et apres ma guerison, c'est elle qui a recommandé au Duc, le Dr. Saiffert, ce qui lui a fait faire sa fortune. Du moment que j'ai été retablie. tout le monde a voulu l'avoir, et generalement on s'en est bien trouve. Mais je dois dire quel soins il me rendoit. Tous mes pansements se faisoient par lui, on sous ses yeux: il me visitoit quatre et cinq fois par jour, pour me consoler et m'engager a souffrir avec patience: enfin il m'a sauvé, et je n'ai perdu a cela, que mes cheveux, qui tomboient tous, et qu'il m'a fait raser. L'obligation de me faire reparer mes dents de devant, que pendant mes souffrances j'avois negligé, et la defense absolue de plus jouer de la harpe: d'avoir conservee la respiration fort courte. Mais qu'est ce que tout cela en comparaison de la vie? J'étois plusieurs mois a refaire mon estomac aux aliments ordinaires; et c'est avec de la chou croute preparé et bien simplement pour mon diner; et un peu de Chinchina dans du vin le soir, et de la teriacque de Venise, qui je suis parvenue a le retablir parfaitement. Mes nerfs ont été irrités bien long tems; mais tout cela s'est passé en moins d'une année, et je suis devenue une femme tres forte. Les deux grandes recommandations de mon medecin apres ma guerison *etoient*; évitez la saignée et les rheums; ce que j'ai fait le plus possible; mais ce climat est humide, et malgré

malgré mes precautions, j'ai été aſſujettie à pluſieurs, au moment ou j'ecris ceci j'en ai une tres fort, avec un veſicatoire ſur la poitrine. Aujourdhui j'ai trente-ſix ans. Je ſuis moins forte qu'à 19, et malgré cela je me tirerai d'affaire. Des calmants ; du lait d'aneſſe ; une veſicatoire qu'il ne faut pas trop forcer parceque cela irrite : point de vin ni de thé ; beaucoup d'eau d'orge coupé avec du lait un œuf, frais *au jour* pris à jeun ; l'exercice du cheval en bon air. Je ſuis bien convancue qu'avec ce regime la, on ſe tirera toujours d'affaire : quand la toux eſt forte il faut toujours humecter. Une gorgée d'eau d'orge ſuffit : cela n'empate pas comme tous le ſyrops et je m'en ſuis toujours bien trouvé. Il ne faut pas negliger dans la preparation des veſicatoires de mettre beaucoup de camphre et d'opium, afin qu'ils irritent auſſi peu que poſſible.

In anſwer to queſtions propoſed by the editor, the ſame lady wrote :

Pour repondre aux queſtions de votre ami Doctеur B. je puis l'aſſurer que j'avois des ſueurs preſque toutes les nuits, et des friſſons plus on moins legers ſuivis de chaleurs plus on moins fortes, que j'ai conſervé aſſés longtems dans mon etable, et dont je ne me ſuis debarraſſée que par le ſuccés de ma veſicatoire.

It may be aſked why, after ſo brilliant a cure, the ſame method was not further proſecuted at Paris ; and the knowledge of its efficacy, if it proved effectual, ſpread over Europe. They, who have that knowledge of human nature which the practice of medicine confers, will be ſenſible of the difficulties attending ſuch an undertaking.

undertaking. For myfelf, I doubt not of being able to overcome them finally: but I have oftener than once been defeated by external circumftances, when the patient, and the patient's friends, were defirous that the trial fhould be made.

I fhould make a number of obfervations upon the French narrative; if it were not prudent to afcertain facts, before their analyfis is attempted. I think it probable that the cow's breath was not effential to the cure. The patients, both in Sweden and France, were expofed to various vapours arifing from animal fubftances, as they underwent chemical changes: and I fuppofe that the conftant action of fome of thefe gave the pulmonary ulcers a difpofition to heal. If this fuppofition were true, nothing would be more eafy than to imitate the experiment without the trouble and expence of the cows. The equal temperature, kept up by thefe animals, might have been an advantage.

MISCELLANEOUS CASES.

MISCELLANEOUS CASES.

CASE XXV.

Of Dyspepsia.

MARY HODDER, aged 39, lives a fervant to Mrs. Godfrey, No. 74, Piccadilly; has for feven years laboured under ficknefs at the ftomach, frequent retchings, great heat and pain at the pit of the ftomach, and flufhings of the face after eating; drowfinefs, a briny water would often flow into the mouth, emaciation, great debility, horrid dreams, often waking in exceffive fright, and commonly with a dull head-ache. She would faint away after any uneafinefs and fatigue, and remain for five or ten minutes like a dead perfon; feet and legs extremely cold, fubject to flatulence, extremely coftive, fight impaired; and, on account of her ill health, fhe was obliged to leave three places. She was turned out uncured twice from the Hofpital, and once from a Difpenfary; and had tried private practitioners without benefit. Of late the fymptoms of her diforder had rather increafed; when fhe began the inhalation of the vital air. In three weeks, by the power of this remedy, conjoined with emetics, cathartics, bark, and fteel, fhe became perfectly free from ficknefs, appetite returned, fleep was undifturbed

undiſturbed by frightful dreams, perſpiration reſtored, a genial glow in the extremities, countenance became healthy, and ſtrength ſo far increaſed, that ſhe feels herſelf perfectly adequate to her preſent ſituation. The air has been left off, and the amendment continues. The quantity of air inhaled daily, was ſix quarts of vital air to thirty of atmoſpheric air.

CASE XXVI.

Corpulency, accompanied with Dyspepsia.

Mr. ASKINS, a ſmith by trade, married, aged 36, was always inclined to corpulency, latterly has become bloated, has frequent heartburn, diſturbed ſleep, flatulency, no appetite, lethargic, coſtive, with depreſſion of ſpirits, and an inability to work; which however he endeavours to accompliſh for the ſupport of his family, ſitting up to a very late hour. This diſorder has been increaſing on him for three years paſt. He had been under Dr. Duvallengin's care for ſix weeks, and had lately tried bark, myrrh, and ſteel, for a month; but the ſymptoms continued nearly as before. His complexion was exceedingly ſallow; and in coming to me from his houſe, No. 48, in the Old Bailey, he was at firſt above an hour and a half; owing to his being exceedingly ſhort-winded, if I may be permitted to uſe his own expreſſion. All theſe ſymptoms appeared to me to denote a deficiency of oxygene in the blood, or a ſtate of ſcurvy. Having therefore premiſed an emetic and calomel cathartic, which brought away a great quantity of

of ſlime, I ordered him a ſolution of nitre in vinegar, which produced all the good effects ſo accurately deſcribed by Mr. Patterſon in his treatiſe on the ſea ſcurvy; and in a fortnight he came to return me thanks for his cure, with ſuch an altered appearance, that it could not fail to ſtrike every one preſent; and he had walked to me in leſs than twenty minutes.

Observations on this case by Dr. THORNTON.

I. As the nitrous vinegar reddens immediately the black blood out of the body, may we not thence argue, it probably produces the ſame effect in the body; and does not this caſe tend much to confirm this opinion?

II. I am trying this remedy in aſthma, chloroſis, putrid fever, the ſecondary ſtage of the ſmall pox, a moſt deplorable caſe of leproſy; and, from my ſhort experience with this new power, firſt ſuggeſted by your theory of diſeaſe, it ſeems to promiſe to be an uſeful article in the materia medica.

III. The preſcription I uſually give, is two drachms of nitre to ſeven ounces of diſtilled vinegar; two table-ſpoonsful of which is to be taken every ſix hours, as the bowels may permit.

CASE XXVII.

Nervous Head-ache.

In March, 1793, Mr. Monier, who lives at Mr. Higgins's, No. 38, Southampton-ſtreet, Covent-garden, applied to me for a violent nervous head-ache, accompanied with ſtupor, and frequent giddineſs; which nearly incapacitated him from all buſineſs, and had continued unremittingly for above ſix weeks. His countenance was pallid; his eyes devoid of ſpirit; his feet cold; his pulſe ſcarcely ſixty; his reſt bad; he had no appetite; or, in one word, to uſe his own expreſſion, the head-ache had wholly *unmanned* him. I ordered him an aperient draught; and then adminiſtered the vital air in a ſtate of much dilution; and in a week he was reſtored to perfect health, in which ſtate he has ever ſince continued; having had ſince not even the ſlighteſt indiſpoſition.

Observations on this case by Dr. THORNTON.

I. After inebriation we obſerve ſymptoms very ſimilar to thoſe I have above deſcribed. Hence the adage, "It is a pleaſant thing to get drunk, but very unpleaſant the getting ſober again."

II. As the going out into the open air frequently gives relief under ſuch circumſtances, was not the vital air indicated in Mr. Monier's caſe? The event ſeems to prove the propriety of the trial.

III. Then was no pulſation of the temporal arteries, or ſigns of plethora; where theſe appear, ſhould we not caution againſt the application of this remedy?

CASE

CASE XXVIII.

Fever.

DEAR SIR,

IT ſeems reſerved for the honour of the preſent enlightened age, to diſcover a ſcientific and ſucceſsful method of treating putrid fever. The contagion has been repreſented as a ſtimulus exhauſting the irritability of the ſyſtem, which depends upon the oxygene in the blood; and a method of cure hypothetically deduced was to ſupply this as faſt as it was conſumed by the exceſſive and morbid ſtimulus. You juſtly reprobate the common practice of drenching patients labouring under typhus, with wine and opiates, until they are not unfrequently ſtimulated to death. "If I have imputed the debility," you ſay, "to its real cauſe, our chief aim ſhould be to reſtore the principle of excitability; and ſtimulants ſhould in the mean time be exhibited with a more ſparing hand." Under this perſuaſion I have conducted my practice, and with what ſucceſs the preſent caſe will diſcloſe. John Lewis, chairman, living at No. 42, Compton-ſtreet, was ſeized with head-ache; rigors, terminating in violent ſweat; great thirſt; a very unpleaſant taſte in his mouth; delirium at night; a ſenſe of burning in the region of the ſtomach; ſpirits exceedingly depreſſed; ſo weak as to feel his legs ſink under him; his countenance is extremely vacant; his anſwers are incoherent; he complains of incipient deafneſs; being deſired to put out his tongue, it appeared coated, and very brown; and there was a crackling noiſe in reſpiration; the pulſe is feeble, tenſe, and very quick.

In order to diminiſh the excitement, and alſo with the view to diſlodge the morbid ſtimulus, I directed an emetic, to be ſucceeded by a cathartic. The former was repeated twice; the latter every night. To impart oxygene to the blood, which was conſuming by the exceſs of morbid ſtimulus, I made him inhale each day ten quarts of vital air to thirty of atmoſpheric; and beſides oxyd emetics and aperients, I gave him nitre; adding a little bark and myrrh to keep up his ſtrength. From my journal it appears, that he progreſſively grew better, and in a fortnight was reſtored, all except his deafneſs; when, by my advice, he went into the country. In another caſe I combined the acetum nitrorum with the happieſt effect.

I am, &c.

R. J. THORNTON.

Observations on this case by Dr. THORNTON.

I. Has not typhus, or putrid fever, commonly two ſtages, in which the blood exhibits oppoſite characters.

II. Does not the ſimilar appearance of the blood in the ſecondary ſtage, as in ſea-ſcurvy, indicate the ſame deficiency of vital air in the blood?

III. Does not the contagion paſs by the ſaliva into the ſtomach and bowels, and there produce its firſt action?

1. Upon diſſection Dr. Crawford diſcovered, that the inteſtinal canal was coated with a thick mucus, often obſtructing the gall duct.

2.

2. Diarrhœa has prevented the acceſs of this fever; and in the forming ſtage, an emetic or two, with cathartics, has, from concurring teſtimony, ſeldom failed to cut it ſhort.

3. When reſident two years in Guy's Hoſpital, beſides my attendance with the claſs in the morning, being every day two hours after dinner in the hoſpital, I ſtood a peculiar hazard of taking this infectious fever; and I am inclined to attribute my eſcape to my not ſwallowing the ſaliva at thoſe times.

CASE XXVIII.

Ague.

September 10. SAMUEL SMITH, recommended to my attention by Mr. Adams, optician, Fleet-ſtreet, has had an ague above a twelvemonth, caught in working for Lady Dunlop, Hadley-Hall, Eſſex. At firſt it came on him every third day for a month; the next month every other day; and then three times a day for a ſhort time; after which it ſettled in a third day ague. Pounds of bark, bark and ſteel, and a variety of noſtrums, had been tried to no purpoſe. His ſkin was yellow, his appetite gone, he had great debility, uſed frequently to faint away, and was, on his well days, nearly incapacitated from work. Having given him the vital air, eight quarts to thirty of atmoſpheric for two days, he had a ſlight attack on the third. The air was continued,

 and

and the next attack was ftill flighter, complexion cleared, appetite improved; and the recurrence of the paroxyfm was prevented. Having perfifted in the air nearly a month, he was perfectly cured.

R. J. THORNTON

CASE XXIX.

Eruption on the Arms.

ELIZABETH FRANKLIN, aged 19, naturally of a very ftrong conftitution; with that want of prudence fo frequently obferved with thofe who truft too much to this circumftance, after a hard day's labour, being very dry and hot, drank a large quantity of cold water; which immediately produced fo violent an head-ache, that fhe was obliged to go to bed. The next day there appeared an efflorefcence on the fkin, which foon ended in a fcurfy eruption on the arms. It had progreffively encreafed; it is now five years; and at length incapacitated her from fervice, and fhe became a burthen on her family. She had been under Mr. Dundas's care at Richmond eleven months, but without benefit; having before tried a variety of remedies. Obferving the great amendment of her neighbour, Richard Major, whofe cafe I have before related, fhe was enduced to apply to me. I ordered her a lotion of nitre and vinegar, which Mr. Patterfon, conducted by your obfervations upon fea-fcurvy, found to be a fpecific in that difeafe. I gave her vital air to inhale, as a purifier of the blood, in the proportion of fix quarts to thirty of atmofpheric; and I diffufed

diffuſed a greater energy of circulation in the capillary veſſels by means of myrrh, bark, and ſteel, having firſt cleared the prima viæ. The effect of the acetum nitrorum, or ſolution of vinegar in the nitrous acid, was the encreaſing the eruption, occaſioning acute pain, and rendering the parts very florid. It was however perſiſted in, and, after a fortnight, the benefit from this application became very conſpicuous. The vital air, at the time of inhalation, always diffuſed a glow, encreaſed the number of the pulſe, and produced perſpiration. The other remedies tended to keep up this effect; and, after a month, the arms, which before bled upon the leaſt preſſure, were in a fit ſtate to bear the fleſh bruſh, which has been ordered; and the ſurface, after ſix weeks, only ſhews the great extent and malignity of the former afflicting diſorder; and the young woman is reſtored as an uſeful member to the community, being now fit for waſhing, and other ſervices.

R. J. THORNTON.

CASE XXX.

Case of Eruption.

Mrs. WILKINSON, who lives in Dartmouth-ſtreet, Weſtminſter, had for fifteen years a *ſcorbutic humour* in the legs, corroding into ſores the muſcular parts, which *ſcurfed*, and occaſioned frequent and violent pain, and an almoſt total incapacity for exerciſe. The muſcles of the calf were hard, and of the colour of mahogany. A great variety of remedies had been tried, as water-dock,

dock, elm bark, ſulphur, &c. and this lady, by the advice of Dr. Haighton, phyſician of the Eaſtern Diſpenſary, had taken for the laſt four months bark and lime water. As Dr. Haighton thought her diſeaſe depended wholly upon the conſtitution, and there was no need of any local application different from what Mrs. Wilkinſon was in the daily habit of applying, I was happy to employ upon this occaſion the vital air. This lady, after a week, felt violent itching and pain in the legs; the colour of the parts was viſibly improved; and the ulcers exhibited marks of active inflammation. In a few days after this, the wounds, which were ten in number, inſtead of a thin acrid diſcharge, threw out pus, and the edges in many were diminiſhed. The hardened muſcles not long after became ſoft. The other beneficial effects of the vital air, as far as regards appetite, ſpirits, warmth, ſleep, &c. were the ſame as thoſe which are ſo energetically deſcribed by the Rev. Mr. Atwood, in his invaluable Journal. In ſix weeks only Mrs. Wilkinſon could uſe the fleſh bruſh to both legs; and the laſt account I have of this lady is, that ſhe was able to walk from Ramſgate to Margate, five miles, without a ſenſe of pain in the legs, or even fatigue. I ſhall hope to ſend, at ſome future time, the ſequel of this intereſting caſe; and ſhall beg leave now to obſerve, that the leg of Patterſon, which had for two years thirty holes in it, and was healed by the inhalation of a ſuper-oxygenated air, has continued perfectly ſound, it is now above eighteen months; which leads me to the hope, that a permanent benefit will be alſo derived to this lady.

R. J. THORNTON.

CASE

CASE XXXI.

August 23, 1796.
Bennet-street, St. James.

DEAR SIR,

JANE FINLAYSON, aged 7, living at No. 4, Lanier-ſtreet, Bloomſbury, had the ſmall pox five years ago ; ſince which period ſhe has been afflicted with a dreadful ſcorbutic humour, covering both legs, the ſhoulders, and the arms ; which either encruſted, forming ſcales, or ouzed out a thin, ſerous diſcharge, diſcolouring the linen. She would often awake in the night ; when, probably from extreme itching, ſhe would tear the humour, converting it to a ſight truly terrific and diſguſting. This ſhe would ſometimes do, even in the day. Her mother firſt applied to the Gerrard-ſtreet Diſpenſary ; and ſhe took pills and aperient powders for ſix weeks, under the care of Dr. Jackſon, without benefit. Her mother then took her to Mrs. Spilſbury, and ſhe continued taking her drops for nine months ; but this boaſted acid was equally ineffectual. She now went into St. George's Hoſpital, and fell under the care of Mr Keate ; who employed the unguentum hydrargyri nitrati outwardly, with mercurial pills every night, and an aperient powder every third morning ; and theſe were perſiſted in for three months ; but they produced only a ſlight degree of benefit, and in a few days after ſhe was taken from the Hoſpital, the diſeaſe broke out as bad as ever. Her mother then, from a very prevalent opinion, judged her only hope was from her breathing her native air, and ſhe accordingly took her over to

Ireland ;

Ireland; but neither the journey, voyage, or native air, proving of ſervice, ſhe applied to Dr. Frazier, of Dublin, under whoſe care ſhe continued ſix months. He employed tar ointment, and a lotion chiefly conſiſting of a weak lime water: but, as the caſe ſeemed to defy all art, the mother thought fit to return with her child, rather worſe, than mended, ſeven months ago. Mr. Ogle, an apothecary in Great Ruſſel-ſtreet, at this time refuſed to do any thing for her, telling her mother, "he could not be of any ſervice, and it was beſt to leave her diſorder to nature." This was the candid opinion of ſome other gentlemen of the faculty; except that one recommended tar ointment, and it was reſumed. The diſorder however getting a head, the poor child was for ſix weeks wholly incapacitated from uſing the ſlighteſt exerciſe; not being able to ſtand upon her legs, the humour had ſpread ſo around the knees. She was therefore brought to me in arms, and ſhe inhaled immediately ſix quarts of vital air mixed with twenty of common air; and ſuch is the fact, *in two days' time*, ſhe was able to walk here, above a mile and a half; her ſpirits were elated; her complexion was cleared; the wounds had thrown off large ſcales, ſhewing a gloſſy red ſkin underneath; in a week the progreſs was ſuch, that ſome large patches had already diſappeared;—in a fortnight the humour on the legs and thighs was in many places hardened, and had ſcurfed off;—and in three weeks, on the back and arms there remained only the ſigns of previous diſeaſe;—and it is now twenty days, and the legs, thighs, the back, and arms, ſhew a truly natural and healthy appearance. The girl took all this time three or four doſes of aperients, and *no other medicine*.

From, dear Sir, your's ever,

To. Dr. Beddoes. R. J. THORNTON.

DEAR SIR,

Basinghall-street,
Sep. 16, 1796.

Mrs. Finlayſon called upon me yeſterday with her little girl, and brought me your letter. My recollection does not enable me, having ſeen the child but once, to contraſt minutely the former appearance of the eruption with the ſubjacent parts that are now exhibited. I am ſatisfied, however, that there is a material alteration for the better. The inflammation, I ſee, has entirely ſubſided; there is no longer any ſerous diſcharge, which, the mother ſays, was at one time very abundant; and, though there is ſtill a roughneſs, the ſuperficial ſcaly incruſtation is ſcarcely now to be perceived. Wiſhing you equal ſucceſs in all parts of your profeſſional purſuits, I remain,

Dear Sir,

Very ſincerely your's,

WM. BABINGTON.

To Dr. Thornton.

A letter from Mr. Ogle has alſo been tranſmitted to the Editor. He ſpeaks of the amendment in this moſt extraordinary caſe in terms nearly the ſame as Dr. Babington's. He imagines the failure of medicine imputable to extreme want of cleanlineſs:—upon which Dr. Thornton remarks, that the oxygene produced its beneficial effects even under this diſadvantage.

CASE

CASE XXXII.

Scrophula.

MARY BUCHANAN, aged 8, lives at No. 2, Witcomb-court, Hay-market; from the account of her mother ſhe was weakly from her infancy. She was two years and a half before ſhe walked; her limbs are crooked, underſtanding remarkably acute, under lip prominent, eyes black, hair lank; was troubled with worms, both the teretes and aſcarides; for which ſhe took Evans's powder, which brought away much ſlime, and many worms: but, from theſe powerful evacuations, ſhe was much debilitated, and became ſubject to profuſe perſpirations, and for a long while was conſtantly ailing; when, whether from cold, or what other cauſe, or the nature of ſcrophula, I cannot determine, ſhe was ſeized with deafneſs; and afterwards with ſuch an inflammation of her eyes, that ſhe was blind for above ten days: leeches were applied to the temples with ſome effect; but theſe ſymptoms only ſeemed to retire, to give way to a more formidable diſeaſe, namely an enlargement of a gland of the neck on the left ſide, which, for three months, kept on encreaſing both in ſize and hardneſs; and the child continually leaning on that ſide, the head became immovably ſunk; ſo that the ear, night and day, nearly reſted on the left ſhoulder. The countenance of the child was pale, body coſtive, belly large and hard, breath offenſive, particularly ſo towards morning, feet cold, itching of the noſe, appetite often keen, but there was no ſtarting in her ſleep, grinding of teeth,

or

or any ſigns of worms obſerved in her evacuation. She was placed, and continued under the care of my friend Mr. Hill, a week. He gave her rhubarb and vitriolated kali night and morning. Sorrel poultices were applied to the neck, the vital air was inhaled, and the caſe was going on very well, when Mr. Hill had occaſion to leave town, and it was then referred to me. I followed Mr. Hill's practice, and in addition employed electricity on the tumour, and directed a tonic mixture of bark and ſteel, keeping the body gently open with the powders. The tumour was at this time the ſize of a gooſe's egg, and very hard. Since the application of the ſorrel, it was looking ſomewhat red. In a week there was produced a conſiderable ſoftening, accompanied with violent pains and reſtleſs nights. I ordered an opiate in the evening. In a few days after this, I made a ſcratch, on the moſt depending part, with a lancet; and repeating this three ſucceſſive days, on the fourth there iſſued through this ſmall orifice a bloody ſerum. I now ordered a bread and milk poultice, diſcontinued the opiate, and increaſed the proportion of ſteel. For ſeveral days the bloody ſerous diſcharge continued, when I ordered the ſorrel poultice to be continued. Almoſt inſtantly the purple tumour was rendered florid, the lips of the orifice became of a bright red, violent pain was excited, and, on the next day, matter of ſome conſiſtency was formed. I moderated the action, when too ſtrong, by a bread poultice; and I ſometimes interpoſed the tonic aperient; and, by always keeping up a due action, in a month the tumour has been wholly removed; the child can turn her head in all directions; ſhe has the appearance and manners of health; and, inſtead of being disfigured, there remains (as in the

 caſe

case before related) a scar not larger than a pea, and not discernible but upon the closest inspection.

Observations on this case by Dr. THORNTON.

I. With rhubarb and vitriolated kali, Sir George Fordyce says, he has cured hundreds of pot-bellied children; and calls this powder "antirachitis;" and adds, "had I aspired after a large fortune, concealing the formula, I could have gained immensely by its sale."

II. I have indeed seen much good produced from constantly evacuating by this powder; but, do we ever observe effects equal to what has happened in this and in the case before related?

III. I should notice, there was a glandular enlargement on the right side of the neck, which was dispersed in a few days by means of a solution of nitre. Did this impart oxygene?

IV. Was not the tumour, which was indolent for above three months, brought to maturation chiefly by the sorrel, electricity, and the inhalation of the air; for this was effected in a fortnight?

V. Did not some benefit arise from discharging the matter by a small opening?

CASE XXXIII.

Case of Leprosy.

AMARO FERNANDEZ, aged 26, has been afflicted with leprosy above seven years. He is a native of the Canary Islands, where we find that disease prevalent, chiefly among the common people, whose food consists almost entirely in salt fish, ill cured, and eaten in a state of putrid fermentation; and this disease resembles elephantasis, differing perhaps from it only in the extent and urgency of the symptoms. It is generally deemed incurable; and terminates in rendering the unfortunate sufferer a miserable object; depriving him, by its corrosive nature, of nose, ears, palate, and eating away also other parts of the body. It increases by degrees, and sometimes gives a glimmering of hope; but the expectation always proves delusive. I will attempt to trace the progress of symptoms; and shall therefore commence by observing, that in the year 1789, an eruption broke out on his face, arms, thighs, and legs, which appeared like purple petechiæ, and frequently terminated in offensive sores, discharging an ichorous serum. Mercury and other medicines were employed, but without effect; rather perhaps increasing the disorder. In the year 1792 these symptoms having increased, Don Fernandez was recommended to try the Bath waters. In the letter which Dr. Scott wrote to the physician of the General Hospital at Bath, he observes, that he had tried bark, elixir of vitriol, hemlock, and that mercury had been rubbed in for three weeks, but without producing any effect on the mouth. He tried there the warm bath; and

and Dr. —— continued the mercury for two months, without its producing the ſmalleſt effect; and at length Dr. ——, declaring he "had uſed mercury enough to ſalivate a horſe," adviſed him to return to London; when he became the patient of Dr. Donavan. It would be tedious to mention all the Doctors under whoſe care he has been, as Drs. Miers, Ralph, Babbington, &c. &c. and many of different countries; and it is impoſſible to record their ſeveral modes of treatment. We ſhall therefore haſten to the year 1795, and mention the ſtate in which he then was. The ſores appear, in 1794, to have healed up, by the application of tar ointment; but the muſcles at this time were in a very hardened ſtate, and aſſumed a very black appearance in both extremities. Under the ſkin there were many hard knots, and in ſimilar points in the correſponding extremities; and theſe frequently broke into fœtid and deep ſores; whilſt others diſperſed without ſuppuration; and others again remained ſtationary. In the year 1795, the noſe ſeems to have been firſt affected, and the ears, which appeared as if froſt-bitten, and mortifying off. At this time he was a patient of Dr. Sanderman's, and able to uſe exerciſe, notwithſtanding the rigidity of the muſcles. The diſorder went on increaſing, and he left Dr. Sanderman; and, in the year 1796, unfortunately fell into the hands of an Italian phyſician, who * * * * * * * * * * * * * * * * * * confined him to his bed for ſix months; ordered a large fire in the room, and no ventilation, and this in the heat of laſt ſummer; giving him, at the ſame time, his grand infallible ſpecific for every diſeaſe, which he terms the *Phlogiſton of the Firſt Power*. He was at length ſo debilitated, that he was unable to ſit upright in

his

his bed. If he attempted to ſtand, his legs failed under him; and he had loſt his appetite entirely, and hardly had power to ſpeak.

Seeing him in this deplorable ſtate, I mentioned to our Ambaſſador, my wiſh of his trying the vital air, and his Excellency obligingly complied with my deſire. Don Fernandez was, in conſequence, removed from his bed to an airy ſituation in Chelſea; tonic medicines were enjoined; and, when he was in a condition to be removed, which was in a week, he daily inhaled the vital air. After his reſidence at Chelſea but three weeks, under this treatment, he was ſo invigorated, as to be able to walk to and from Bennet-ſtreet, St. James's. In ſix weeks the muſcles were evidently ſoftened; there was a leſs ſcaly eruption on the ſkin; and, at the end of two months, the unſound and ſound parts of the noſe and ears appeared united; and he is now ſo ſtrong as to be able to walk from Chelſea to the Exchange, and back, without feeling the ſmalleſt fatigue; and his appetite and ſleep are the ſame as if he had never been ill; and he is evidently much increaſed in bulk. The change produced is ſo ſtriking, and the trials this patient had made are ſo numerous, and conducted by ſo many able phyſicians, that I cannot but contemplate this, as adding conſiderably to the reputation already ſo juſtly acquired by the pneumatic practice.

I am, dear Sir, &c.

CHARLES DE GIMBERNAT.

London, Oct. 30, 1796.

To Dr. Beddoes.

Surgical Cafes and Obfervations.

CASE XXXIV.

DEAR SIR,

MY friend Mr. Danfey has defired me to fend you a few particulars, which I collected from a poor fellow, who was cured of a very extenfive ulceration in his neck by the ufe of the wood-forrel and meadow-fweet, applied in the way mentioned in one of your effays. I moft willingly comply with his requeft, for to you is the poor man indebted for his remedy. It would afford you a real fatisfaction, to fee and hear with what enthufiafm and gratitude he fpeaks of his cure and the wood forrel. From this cafe, and a fubfequent trial of it, I believe it to be an application of wonderful efficacy for inveterate ulcerated furfaces. That your humanity and benevolence may be fully gratified by a fuccefsful profecution of your truly ingenious and indefatigable enquiries, in the event of which almoft every human being is interefted, is the hearty prayer of

RICHARD DUNNING.

Dock, Oct. 8, 1796.

WILLIAM GILBERT, of Londrake, in Cornwall, by trade a fhoe-maker, about two years fince recovered with difficulty from a fever. Soon after his recovery, he perceived a fwelling in his neck, juft under his ear,

After

After ſeveral months, and a variety of applications, it ſuppurated, and was opened by a judicious ſurgeon in the neighbourhood, who attended him a conſiderable length of time. Under the beſt management, the ſore every day grew worſe, and very ſoon became a miſerably ill-conditioned ulcer. He came to Plymouth, and was ſeen by ſeveral eminent ſurgeons of this place; who conſidered his complaint as ſcrophulous, and ordered an appropriate treatment. No advantages whatever were obtained. The ſore continuing to ſpread, after ſome time extended from the ear to the ſternum; and, from the poor fellow's account of it, muſt now have preſented an aſpect of a moſt horrible appearance, diſcharging profuſely a thin and highly offenſive ichor, and waſting rapidly his conſtitution. At this period of his complaint, he was mentioning his diſtreſsful ſituation to Mr. Danzay (into whoſe hands I had lately put your Eſſays, in which is related a caſe of ſcrophula, cured by the wood ſorrel and meadow ſweet), who told him of this circumſtance, and recommended him to give theſe ſimples a trial. The poor man moſt readily adopted his advice, and uſed them exactly in the way directed in your Treatiſe. By the uſe of theſe ſimple applications, unaſſiſted by any other means whatever, external or internal, at the end of three weeks from their firſt uſe, this very extenſive and foul ulcer was completely healed and cicatrized, and the poor fellow nearly reſtored to his original ſtate of health. He ſpeaks in an emphatic manner of the immenſe pain the application of the wood ſorrel gave him. He ſays, the pain was ſo great, he thought *it had knocked him out of his parts!* He has been well about ſix weeks or two months.

Shefnal,

CASE XXXV.

Shefnal, July 21, 1796.

DEAR SIR,

THE mode of application to the ulcer in the neck was as follows. Immediately after the receipt of your letter we applied a poultice, compofed of ground forrel leaves, one part, and marfh mallow roots, three parts, bruifed together, for two days, frequently renewing it. Confiderable pain and inflammation was excited at firft, the furface of the ulcer appearing of a black colour, as if fome active cauftic had been applied. Afterwards the meadow forrel root, bruifed, and foftened with acid butter milk, was continued for a long time, producing a copious difcharge of excellent pus, the ulcer wearing the *beft afpect* I ever faw proceeding from fcrophulous affection; and laftly, when the difcharge began to leffen, and all appearances of fwelling were totally gone, it was finally healed by a digeftive ointment, made with gum elemi, refin flav. ceræ flavæ et ol. ——. I muft obferve, that frequently through the progrefs of the cure, fungous edges were inclined to arife; but a folution of vitriol. canel. in water, anfwered the purpofe of keeping them under extremely well. If the foregoing account fhould in any way prove unfatisfactory, be fo good as point out any further particulars you wifh to be informed of, and I will endeavour to recite them as accurately as is in my power. In the mean time,

I remain, &c.

SAMUEL BENNETT.

CASE XXXVI.

Inflammation of the Breasts.

SIR,

Mrs. LEWELLIN, ætat. 25, lives at Camden-town; ſhe was brought to bed of her firſt child laſt July, and, having very ſore nipples, ſhe attempted, after a few days, to wean the babe, and for thirteen weeks kept it from the breaſt; during which time the milk was conſtantly produced in the greateſt abundance, ſo that it run through every thing that was placed to receive it; notwithſtanding nipple glaſſes, and that the milk was frequently drawn off by means of a glaſs pipe, by an obliging neighbour. Inflammation gradually enſued, and it occupied the inferior half of both breaſts, and, extending down to the umbilical region, was terminated by a diſtinct line. The babe was now applied to the breaſt, but would not take to it. The heat and pain became extreme. There were many knotty and hard tumours on both breaſts. Matter ouzed out from the ſurface. The pulſe was 110, full; perſpiration conſtant and profuſe; agony ſo great, that ſhe was deprived of ſleep; and the child not thriving, and continually crying in the night, increaſed the affliction. She had given up all hopes of recovery, or even outliving many days, when ſhe applied to me; and her caſe ſeemed to demand a new practice. Appearing too weak for the lancet, this remedy was precluded. As to evacuations, the ſame reaſon weighed alſo againſt that plan. The ſpeedieſt benefit, however, might ariſe from *diſoxygenation* of the *blood*, and the caſe was urgent. I therefore filled a bell glaſs with atmoſpheric air, and burning two table ſpoonsful of

æther in it, I rendered it chiefly azote, and inflammable air. She persisted in inhaling this for about five minutes, standing up, until the pulse was obliterated; the eyes became dim, and no longer represented the objects of vision; the face was deadly pale; and swooning coming on, she fell into the arms of a servant, and we placed her on a chair, and I opened the window to admit fresh air. In about ten minutes she revived; she fetched several deep sighs, and appeared faint, and still very languid. The pulse was feeble, and only 98; and for the first time, she said, for some weeks, she felt her breasts cold and easy. I directed her, when she got home, to apply clothes wrung in yeast to the inflamed surface; and I ordered an electuary three times a day of sulphur, and sulphurated kali; and on the sound part, around the inflammation, I directed half a dozen leeches to be applied; and to divert the current from the inflamed parts, I ordered a large burgundy pitch plaster to be placed betwixt the shoulders, which however acted like a blister. On the the third day, when I saw my patient, her spirits were revived; the vivid red colour was abated; the tumours of the breasts were softened; and the milk could be drawn off without torture. Mrs. Lewellin inhaled the air as before, but with less sedative effect; when I ordered four fresh leeches (for the others had died immediately after the operation), and the yeast and electuary as before. On the fourth day there was no longer occasion for leeches, or the yeast fomentation. The electuary, and a reduced atmosphere, were, however, continued; and in a week the cure was perfected; and the child was applied to the breast, and health and happiness were restored to both.

R. J. THORNTON.

CASE

CASE XXXVII.

Birmingham, Aug. 20, 1796.

DEAR SIR,

I TRANSMIT to you the following hints on the effects of factitious airs in cases of surgery, to induce the humane practitioners of that art to extend the application of them. In the management of large ulcers, when the discharge is thin and copious, the great desideratum is to increase the absorption: for, unless secretion and absorption maintain a just equilibrium, a cicatrix can never be formed. But the most skilful surgeons frequently know not how to accomplish this end. The whole list of general and topical remedies at present known, however judiciously applied, are always slow in their operation, and sometimes entirely fail in producing the desired effect.

Carbonic acid air has been lately found, by Dr. Ewart and others, to promote the absorption of the most virulent matter, from the most inveterate ulcers, in a manner previously unknown. Hydro-carbonate, as far as I recollect, has never been tried as an external application: but I have had repeated proofs of its producing this effect in a powerful and rapid manner, when used as a general remedy.

A patient of mine, afflicted with scrophulous swellings and ulcerations, who had for some time inhaled oxygene air, and had been much improved in his state of health

by

by the medicine, desired me one day to examine his head, as he feared some fresh ulcers were about to break out there. Upon examination, I found the skin raised in several places, by collections of effused lymph; each tumour containing apparently from half an ounce to an ounce of fluid. In this manner, he informed me, the complaints usually began; the lymph gradually accumulating till it produced inflammation of the skin, and an ulcer, extremely difficult to heal. The process followed exactly the same course when he inhaled oxygene. A mixture of oxygene and hydro-carbonate was then tried: the fluid was soon completely absorbed, and the tone of the relaxed skin perfectly restored. The experiment has been repeated five or six times on the same and other patients, and has uniformly produced the same effect.

In some of the cases, where the constitution was more vigorous, hydro-carbonate alone, diluted with atmospheric air, was used. In others, where the debility was very great, the quantity of oxygene was increased, and the hydro-carbonate given in a very small proportion, so as to produce only a slight degree of vertigo.

From these facts may it not be inferred, that many humours might thus be prevented from bursting, and the admission of common air avoided, which always produces painful and morbid effects on a fine cuticular surface. That hydro-carbonate promotes absorption, is further proved by its effects on the expectoration of phthisical patients. In all cases the matter is rendered less copious and thicker by the use of this air, and the difficulty of breathing is at the same time much relieved.

In

In Richard Newbury's case, an account of which I understand is transmitted to you by Dr. Carmichael, the absorption was so rapid, that a quantity of the matter which could not be discharged by the natural emunctories, was deposited on the surface of the skin, and the cure was speedy and permanent. If it be said, that the same effect may be produced by ipecacuanha and other emetics, it may be replied, that the action of the hydro-carbonate is more correct and certain, that the degree of its power can be accurately regulated by the practitioner, and that it produces neither nausea nor relaxation of stomach, by which the patient is deprived of a regular supply of nourishing food.

It might be easy, perhaps, to produce facts to shew, that hydro-carbonate is the most direct, powerful, and easily-managed antispasmodic yet discovered; that it produces no costiveness, like opium, nor any effect whatever, but that for which it is exhibited; and that it will probably be found capable of relieving or removing some of the most distressing calamities that are incident to humanity; such as convulsions, locked jaw, hydrophobia, &c. But at present I mean only to bring forward hints, that others, who have inclination and opportunities, may put them to the test of experiment.

I am respectfully your's,

JOHN BARR.

Extracts

Extracts of Letters from Mr. SANDFORD, *Surgeon, Worcester.*

I STILL continue to apply the charcoal poultice, with the ſame beneficial effects as before. I have lately applied it with very beneficial effects to a lady, that had been very extenſively ſcalded, about a week before the application. It ſoon produced a ſloughing, and good pus; though the limb was hard, livid, and approaching to mortification. The ſloughing, when it did take place (which was not till many days after the application of the poultice), was ſo extenſive, that a very large and thick poultice was neceſſary to cover it; and when the ſloughs were thrown off, mild eſcharctics were applied; but in ſuch a way, that the poultice (which was now divided in different portions) was applied to the digeſting parts, and the cerete to the other parts, till the whole was healed. By this means the fœtor was corrected, and the healing proceſs forwarded at the ſame time.

I have alſo lately applied the ſorrel poultice to ſcrophulous tumours, with very manifeſt advantage. I have remarked, that ſometimes the ſtimulus, when the bruiſed leaves are applied, is too great, and induces a high degree of inflammation, attended with great pain. I generally apply the leaves ſeparated from the ſtalks, well bruiſed, and added to a ſoft and well-boiled poultice of oatmeal and ſmall beer. The quantity of ſorrel neceſſary to be added to this poultice, can only be learnt from its effects on the parts to which it is applied. I am now applying it to an ill-conditioned ulcer, with inflammation and hardneſs of the ſubauxillary glands, with evident

dent advantage; and alſo to a ſcrophulous knee, on which are ſeveral ſpungy and ſluggiſh ulcers: both theſe patients are taking the extract of oak bark, with an aromatic (as mentioned in your former publications) and ſal. ſodæ.

I do not recollect whether I mentioned in my laſt, that Mr. Polhill, ſurgeon to the Engliſh Hoſpital at Leghorn, had lately informed me, that he had very frequently applied diluted lemon juice, with the beſt effect, to ſcrophulous ulcers on the legs of ſailors.

In the treatment of *ulcers* in general I have remarked (as no doubt many other ſurgeons have alſo) that their diſpoſition to heal depends (let the means of promoting this purpoſe be what they may), upon the matter ſecreted by them "being firſt thickened by increaſing the ab-"ſorption in *them*, and then leſſened, till all the matter "is abſorbed which is brought by the arteries, inſtead "of being depoſited in the ulcers," as Dr. Darwin has ingeniouſly ſuggeſted. See the ſecond volume of his Zoonomia, p. 47. The action of ſorrel and lemon juice, applied to ſcrophulous ulcers, probably effects its purpoſe in a two-fold manner; as, firſt, by ſtimulating the languid inirritable abſorbents, by means of the oxygene contained in theſe ſubſtances; and, ſecondly, promoting the abſorption of the thinner parts of the matter, in the ſame manner that acids, when taken into the mouth, coagulate viſcid phlegm.

REMARKS.

1. CASES XXIX. XXX. and more particularly XXXI. and XXXIII. (attested, as they are, by three different observers) will not fail to occasion further trials of oxygene air in obstinate cutaneous diseases. The principle of the great efficacy ascribed to it in these cases, I take to be its power of exciting the arterial system. There have been transmitted to me (without permission to make them public) observations, in which the effects of stronger action in the minute arteries are very apparent. Such are the amendment or thickening of the matter secreted from ill-conditioned ulcers, and the renewal of the suspended discharge of issues. Had oxygene gas been known centuries sooner, it might have proved a resource against the most loathsome malady that has afflicted mankind; for the contagion of leprosy seems to have diminished the power, and destroyed the life, of the cutaneous capillaries (*See Hensler vom aussatze. Hamburg*, 1790.). At present, this species of air deserves a trial in those kindred disorders, that occur not infrequently in hot climates, and are sometimes seen in these latitudes (*Rapp. des Commiss. de la Societé Roy. de Med. sur la Mal Rouge de Cayenne, ou l'Elephantiasis. Paris*, 1785.).

Caſe XXVIII. of an obſtinate ague, cured by oxygene air alone, indicates a power that could hardly have been anticipated by ſpeculation. We have lately received confirmation of the efficacy of an expedient, in uſe among the Dutch fiſhermen, for ſtopping an ague fit. It conſiſts in arreſting the circulation in one arm and one leg, at the commencement of the cold ſtage; by which the influence of the brain and the effect of reſpiration are confined to part of the body, and may be ſuppoſed to occaſion greater energy of action in that part. Will the inhalation of oxygene, by heightening the effect of reſpiration, prove equivalent to the Dutch practice? The caſe will not be overlooked by thoſe who have the treatment of agues that do not yield to the *mineral ſolution*, to bark, or the broad-leaved willow, which has appeared to me fully to anſwer the character given of it by Mr. James (See his *Obſervations.* Johnſon, 1792).

II. I have formerly preſſed the uſe of oxygene in the latter ſtage of low fever, and of that very fatal diſeaſe, the confluent ſmall-pox. No direct deciſive trials have come to my knowledge; for Caſe XXVIII. goes only to ſhew, that oxygene air may be adminiſtered with ſafety: and in Mr. Murdock's daughter, in whom it is reported to have produced ſudden change for the better, when ſhe was near the point of death (ſee letters from Dr. Withering, Dr. Ewart, and others, p. 23), we have but a ſolitary inſtance of deciſive power.

Thoſe experiments, however, on the power of the vapour of mineral acids to deſtroy *contagion*, which have

have been made within the laſt 25 years, and which of late have been proſecuted with the ardour they deſerve, ſeem to furniſh ſtrong evidence of the uſe of oxygene in the debility of bad fevers. This concluſion, I think, diſtinctly reſults from a compariſon of the different methods practiſed within the period aſſigned.

Mr. Morveau, reflecting probably upon the power aſcribed to acids over contagion, conceived the idea of filling an infected atmoſphere with marine acid vapours. Theſe he ſucceſsfully applied to the ſweetening of places filled with putrid exhalations. (*Journ. de Phyſique*, I. 436.). And, (*Ibid.* III. 73) we have an inſtance of the purification of a place, infected with jail fever. The facts were alſo recorded in the *Mem. de Dijon*. The commiſſaries of the Paris Academy recommended an annual purification of priſons in this method (*Mem. Acad. de Paris*, 1780.). The rooms were evacuated; and, oil of vitriol being added to common ſalt, they were kept ſhut for ſome time. Mr. Morveau ſuppoſed the acid to unite with the volatile alkali which ſuſpended the infectious miaſmata. I rather imagine that *febrile* contagion, at leaſt, is much allied to volatile alkali in its compoſition, and that it is neutralized by acids.

The French never afterwards loſt ſight of this application. In October, 1787, I remember accompanying M. et Mad. Lavoiſier, M. Morveau, M. Chauſſier, Dr. Fourcroy, and other philoſophical perſons, to the Dijon Hoſpital. After mentioning the ſingularity of the foundation, and pointing out the elegance of the inſcription, they

they enquired whether acid vapours, in M. Morveau's method, were not in familiar uſe in England. They ſpoke as if perfectly convinced of their efficacy. In 1791 Dr. Fourcroy thus prefaced his propoſal for employing oxygenated marine acid, in void infected rooms: "On 'ſait dejà que la vapeur de l'acide muriatique - - - - " - - - - - - a rempli ce but, et qu'elle a parfaitement " reuſſi à M. Morveau. (*La Med Eclairée*, II. 89.) In the beginning of 1794, (as is ſeen from the quotation, Appendix, No. VI.) it had been aſcertained by the members of the *Conſeil de Santé*, that a ſmaller quantity of M. Morveau's mixture of common ſalt, water, and ſulfuric acid, moved about to every part of an occupied ſick or foul room, would perfectly ſweeten and *diſinfect* it; and that this proceſs occcaſions no diſagreeable or incommodious ſenſation. It has been lately ſaid by an Engliſh writer, that the French do not "appear to have " ſuſpected, that the power of deſtroying contagion is " a quality inherent in all mineral, and probably, to a " certain degree, in all acids, under certain circum- " ſtances." (*Dr. J. C. Smyth, on the Jail Diſtemper*, p. 203. In the *Inſtruction*, however, of which the Author is here ſpeaking, this power ſeems to be expreſsly aſcribed to all acid fumes:—*ce n'eſt point que le vinaigre, mis en expanſion dans une bouteille à large orifice, ne puiſſe, comme* TOUS LES ACIDES *dans l'etat de gaz, former des combinaiſons avec les miaſmes ammoniacaux putrides, les detruire et rendre à l'air, dans lequel ils etoient comme diſſous, ſa pureté et ſon elaſticité.* (Journ. de Phyſique, Ventoſe, an 2, p. 167.) If the vapour of nitric acid has really not been uſed in France, might this not have happened, becauſe ſo much gunpowder was wanted for deſtruction, that no nitre could be ſpared for preſervation?

In

In 1780, Dr. J. C. Smyth appears to have ſucceeded in deſtroying a moſt peſtilential contagion at Wincheſter, principally by acid fumes. He had the floors and walls of the priſon and hoſpital wards, alſo the hammock poſts, as high as the cieling, freely watered with diluted marine acid. Gallipots, containing fuming nitrous acid, were kept day and night in the inhabited wards; and the infected utenſils and clothes were waſhed with marine acid.* This acid probably acted with ſtill greater efficacy than Dr. Smyth conceived; and, if there be an analogy between certain ſpecies of contagious effluvia and volatile alkali, the ſmall quantity in which marine acid may neutraliſe thoſe effluvia, will hardly be imagined, but by thoſe who have obſerved the action of marine acid air upon alkaline air, and the manner in which bright iron is affected by a ſmall quantity of marine acid, ſet at liberty in a ſpacious apartment.

Although theſe methods ſucceeded ſo happily in preventing infection, there is no evidence of their having contributed to the recovery of the ſick; till, in conſequence of the meritorious perſeverance of Dr. J. C. Smyth

* Dr. S. having mentioned the fuming yellow nitrous acid, and the nitrous acid, as detached from nitre by vitriolic acid, adds—"In one "or other of thoſe forms I have uſed it, both in hoſpitals and in pri- "vate practice, for 16 or 17 years paſt" (Jail Diſt. p. 193.). It is ſingular, if he had uſed the latter method 16 or 17 years before 1795, that he ſhould have deflagrated nitre in 1780, by a hot iron, with a view to extricate vapour of nitrous acid. This Dr. S. confeſſes was a miſtaken view; but he thinks the deflagrated nitre "furniſhed a quan- "tity of oxygene, or air much purer than the common air of the atmoſ- "phere." (p. 174.)! and thus purified the wards!

Smyth, a careful trial of the fumes of nitric acid, copiously raised by sulfuric acid, took place on board the Union hospital ship (*Dr. Smyth's Account of the Exp.* Johnson, 1796.). The managers of the experiment were struck, not merely with the destruction of the offensive smell arising from the crowded sick, but with the change in the course of the disease. Mr. Menzies says, "As none of the sick, who have been brought to the "Hospital since my arrival, have died, it would seem "that the fumigation has not only lessened the danger of "infection, but also *the malignity of the disease.*" p. 19. Mr. Bassan, the surgeon of the ship, asserts, that the "symptoms are much meliorated. I believe," he adds, "that the fumigation has been of *great service to the* "*sick.*" (p. 24.) For this operation, it appears from the report, that neither of these gentlemen were looking; and Dr. Smyth says, "that the vapour of the nitrous "acid should be found to destroy an offensive smell, the "effect of animal exhalations, I was not surprised at, "having myself had repeated experience of the fact; "but, that it would also render the air purer, aud more "proper for respiration, I was by no means certain, "until I found the repeated observations of these gen- "tlemen confirmed by the evidence of Mr. Keir." (p. 51.)

No oxygene gas is extricated during the distillation of marine acid; nor does marine acid gas shew any of the eminent effects of oxygene. In the distillation of nitric acid, oxygen gas is extricated; and nitric acid gas shews eminently the effects of oxygen. The fumigations, therefore, in which oxygene gas and analogous vapours were

extricated with benefit to perfons ill of a low fever, countenance very ftrongly the propofal for exhibiting oxygene gas for the cure of febrile (not inflammatory) diforders.

It would be curious to know the effect of thefe oxygenating fumigations on fcorbutic patients : but, in confideration of the feemingly fatal effects of expofure to a free atmofphere, I fhould not feel juftified in venturing the trial. If the acid fumigations become general in the navy, inevitable accidents will teach us, whether oxygene, from its ftimulating effect on the arteries, is pernicious or beneficial in fcurvy. We fhould not now have been ignorant, had they been in ufe laft year, when the whole Channel fleet had been nearly difabled by the fcurvy ; for while in port, it was fupplied (I fuppofe on account of the dearnefs of fat cattle) with falt meat.

III. Mr. Patterfon's experiments with nitre in vinegar have not yet, I apprehend, been fufficiently authenticated to afford, to perfons acquainted with thofe of Dr. Trotter, much hope that the fcurvy can be cured without frefh vegetables. The facts being granted, it has been afked, upon what principle can nitrous vinegar oxygenate the fyftem, when nitre alone does not ? Can it be, that the nitric acid is rendered more eafy of decompofition, by the attraction of the acetous acid for the vegetable alkali ? We know little of the action of falts, compounded of two acids and an alkali, even on dead matter, except what Mr. Keir has difcovered (*On Metallic Solutions. Phil. Tranf.*).

IV. The ftudy of a method to render oxygene more efficacious, and to produce it in greater purity, deferves the

the attention of thofe who think it likely to become an ufeful remedy. I have met with cafes in which it feemed to have no action on the fluggifh arteries. A lady, whofe extremities were habitually icy cold, began with two, and came to take a hundred, quarts a day, fometimes pure, and fometimes diluted. I never could perceive any change of the pulfe during the inhalation, even of fixty quarts. At length, however, the torpor of the extremities was overcome by it. Dr. Clark, of Newcaftle, had an enfeebled patient, who received benefit from oxygene; and, as Dr. C. thinks, would have received much more, if the power of the oxygene could have been enhanced. I am now about to try two methods of effecting this; and doubt not, but by the Inftitution for afcertaining the virtues of airs, a mode of increafing its power twenty fold will be difcovered.

I never was afraid, that elaftic fluids would fail of a trial; but I am now ferioufly apprehenfive that they will be abufed. In London, if I am not mifinformed, in confequence of benefit to fome diftinguifhed perfons, befides thofe whom I have been permitted to name, a rage for refpiring them feems to be kindling. In fome cafes no good, in others much harm, will enfue. And we may fee *that* realifed, which prudent men have augured of other good medicines undiftinguifhingly adminiftered: *variis hifce aufis metuendum eft ne in neglectum vel defpectum recidant.*

END OF PART IV.

PART V.